

SUMMARY REPORT

**MICHIGAN HIGH SCHOOL ATHLETIC ASSOCIATION
HEAD INJURY REPORTING SYSTEM**

2020-2021 School Year

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I. Introduction & Methodology

1.1 Overview

Promotion of student-athlete health and safety is a core value of interscholastic athletics, and one of the guiding principles of the Michigan High School Athletic Association in its mission to increase participation and raise the quality of the experience for all involved in school sports in the state of Michigan. Over the past decade, few issues regarding the health of young student-athletes and the safety of school sports have generated as much concern as head trauma and concussions. Although equipment advancements, increases in coaches education, and safety-oriented changes to practice policies and game rules have made school sports safer than they have ever been, precise data on the frequency and severity of head injuries incurred during interscholastic athletic events is limited. Beginning in the 2015-16 school year, the MHSAA required all head injuries sustained during MHSAA sponsored activities be reported to the MHSAA through an online reporting system. The data generated from the MHSAA Head Injury Reporting System will establish a baseline, and eventually allow the MHSAA to determine progress year-to-year in Michigan school sports in this critical area of health and safety.

1.2 Aims

The specific objectives of the MHSAA Head Injury Reporting System are:

- A. Determine the incidence (total number) of head injuries sustained by athletes participating in MHSAA sponsored activities.
- B. Calculate and compare head injury prevalence rates using head injury report counts and participation data for MHSAA sponsored activities.
- C. Provide detailed information regarding head injuries sustained during MHSAA sponsored activities including athlete demographics, the circumstances of the injury event (date, practice or game, time during practice or game of injury, protective equipment worn, cause of injury event, initial examiner, etc.) as well as subsequent clearance/return to activity after the injury.
- D. Use the collected data to identify any patterns across variables.

1.3 Design

Beginning with the 2015-16 school year, head injury reporting became mandatory for MHSAA member schools. Under the MHSAA Concussion Protocol, **member schools are required to complete and submit an online report designated by the MHSAA to record and track head injury events when they occur in all levels of all sports during the season in practices and competitions.** The reporting mechanism developed by the MHSAA is identified in this report as the MHSAA Head Injury Reporting System. Reporting by member schools required completion of two basic online report forms; the first report completed after the initial head injury event, and the second completed after the student has received clearance to return to activity after the head injury or the season in which the injury occurred has ended.

Definitions

The MHSAA Concussion Protocol and Head Injury Reporting System defined a head injury as:

An injury that occurred as a result of participation during an in-season practice, scrimmage, or game in one of the 28 sports for which the MHSAA provides a post season tournament – namely baseball, boys and girls basketball, boys and girls bowling, girls competitive cheer, boys and girls cross country, football (11-player and 8-player), boys and girls golf, girls gymnastics, ice hockey, boys and girls alpine skiing, boys and girls lacrosse, boys and girls soccer, softball, boys and girls swimming & diving, boys and girls tennis, boys and girls track & field, volleyball, and wrestling – **and** – required the athlete be withheld from activity after exhibiting signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion or balance problems).

The MHSAA Concussion Protocol and Head Injury Reporting System defined clearance as:

Written authorization from an M.D., D.O., Nurse Practitioner, or Physician's Assistant to return to unrestricted activity.

Population

All male and female students grades 9-12 of MHSAA member schools participating in MHSAA sponsored activities during the 2020-21 school year.

The MHSAA is an association of approximately 1500 individual public, private and parochial high schools and junior high/middle schools. At the start of the 2020-21 school year, member schools include 746 high schools of various enrollments and resources (186 schools with an enrollment greater than 829 students, 186 schools with an enrollment between 828-399 students, 187 schools with an enrollment between 398-189 students, and 187 schools with an enrollment less than 188 students) and 800+ member junior/middle schools*.

*Junior high/middle school head injury data is not part of this report. Injuries to 6th, 7th and 8th graders participating on high school teams (allowable under specific circumstance for schools and cooperative programs with fewer than 100 students) were included.

1.4 Data Collection

As MHSAA member schools vary widely with respect to school personnel and resources (not all schools employ an athletic trainer, or even a full-time athletic administrator), the MHSAA Head Injury Reporting System was designed for use by athletic trainers, school administrators, and coaches. The system was accessed through login to MHSAA.com. Only users identified within the system as athletic trainer, school administrator (i.e. athletic director, athletic department secretary, principal, or superintendent), or coach had the ability to access to the online system, and submit and review reports for the school(s) with which they are associated. The MHSAA Concussion Protocol does not specifically legislate who at the school must complete and submit the report, nor does it specify a time frame to submit the report after a head injury event – local schools were left to make those decisions and create their own reporting protocol based on their personnel and resources. However, reports were procured by the end of each season.

The MHSAA Head Injury Reporting System process consisted of two parts: 1) an initial head injury report, and 2) subsequent follow-up report. After a head injury event, the school was required to complete and submit an initial head injury report. This initial report was an online form designed to collect general information about the student (i.e., grade, gender, level, sport) and the injury event, including event date, whether injury

event occurred in practice or game, time of injury event during practice or game, protective equipment worn on the head at the time of the event, cause of the event (i.e., person to person contact, person to object contact, person to ground contact, or unknown), surface type, initial examiner, and removal from play decision.)

After the initial head injury report was submitted, the report was assigned a unique seven-digit ID code and was saved in a report listing. This served as an electronic record of the head injury reports submitted by the school into the system and where the school accessed and completed a follow up report (details forthcoming). In addition to being saved in the report list, a PDF file of the report containing the ID code was generated and sent via email to the school. No personally identifiable information was included on the report in order to protect student privacy. Schools were instructed to print the PDF copy and record the injured student's name or student ID number as a means to link the report with the specific student so that report could be referenced for completion of the second part of the reporting process: the follow-up report.

The final part of the reporting process required completion of a follow-up report. The follow-up is a second online report form linked to the initial head injury report designed to collect general information regarding the student's return to activity after the head injury, including the official diagnosis of the head injury event, the date the student was authorized to return to activity, medical examiner authorizing return to activity, facility in which the student was seen by the authorizing medical examiner, conditions to return, and missed school as a result of injury event. The follow-up report was to be completed once the student received authorization to return to activity or the season ended.

1.5 Data Management

Initial head injury reports were reviewed by members of the MHSAA staff on a daily basis. The school was contacted if a clear reporting error or anomaly was identified during review. As schools were not given the ability to edit reports once submitted, all changes or removal of reports were handled by the MHSAA staff.

Follow-up reports were also reviewed on a weekly basis. Schools were contacted approximately three weeks after the reported injury date and then each week in the two to three weeks prior to the end of the season. If the head injury report remained unresolved, reminders were sent for completion of the follow-up report once the student received appropriate clearance or the season in which the injury occurred ended.

Head injury reports not diagnosed as concussions, and confirmed as no concussion in the follow-up report were marked and excluded from this report. Head injury reports with no follow-up report completed were included, however.

Schools with no head injury reports for a season (Fall, Winter, and Spring) were required to report this at the conclusion of each season by attesting to this information in the Head Injury Reporting System. Follow-up continued each season with all schools who had not reported concussion or zero concussion until data was received by no less than 99% of MHSAA member high schools.

1.6 Data Analysis

The data contained in this report is largely a summary of the data gather by the MHSAA Head Injury Reporting System by sport.

Head injury prevalence rates were calculated by dividing head injury reports count by participation. For instance:

$$\text{Girls Soccer Head Injury Prevalence Rate} = \frac{\text{\# girls soccer head injury reports}}{\text{girls soccer participation \#}}$$

In order to more easily compare head injury prevalence rates between sports, the head injury prevalence rate was also expressed per 1,000 participants. Head injury prevalence rate per 1,000 participants was found by placing the head injury prevalence ratio (injury reports/participation) on one side of an equation and placing the ratio (X / 1,000 participants) on the other side of the equation and solving algebraically for X. Essentially, the head injury prevalence rate per 1,000 participants for each sport was found by multiplying the head injury prevalence rates by 1,000 and then rounding to the nearest whole number.

II. Overall Head Injury Reports

Table 2.1 Reported Head Injuries by Sport, MHSAA Head Injury Reporting System, 2020-21 School Year

Baseball	Varsity	22	Boys Golf	Varsity	0	Softball	Varsity	40
	Junior Varsity	17		Junior Varsity	0		Junior Varsity	19
	Freshman	2		Freshman	0		Freshman	1
	TOTAL	41		TOTAL	0		TOTAL	60
Boys Basketball	Varsity	40	Girls Golf	Varsity	0	Boys Swimming & Diving	Varsity	2
	Junior Varsity	36		Junior Varsity	0		Junior Varsity	0
	Freshman	11		Freshman	0		Freshman	0
	TOTAL	87		TOTAL	0		TOTAL	2
Girls Basketball	Varsity	68	Girls Gymnastics	Varsity	3	Girls Swimming & Diving	Varsity	13
	Junior Varsity	56		Junior Varsity	0		Junior Varsity	1
	Freshman	12		Freshman	0		Freshman	1
	TOTAL	136		TOTAL	3		TOTAL	15
Boys Bowling	Varsity	0	Ice Hockey	Varsity	26	Boys Tennis	Varsity	0
	Junior Varsity	0		Junior Varsity	4		Junior Varsity	0
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	0		TOTAL	30		TOTAL	0
Girls Bowling	Varsity	0	Boys Lacrosse	Varsity	45	Girls Tennis	Varsity	4
	Junior Varsity	0		Junior Varsity	5		Junior Varsity	0
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	0		TOTAL	50		TOTAL	4
Girls Competitive Cheer	Varsity	45	Girls Lacrosse	Varsity	34	Boys Track & Field	Varsity	4
	Junior Varsity	6		Junior Varsity	7		Junior Varsity	0
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	51		TOTAL	41		TOTAL	4
Boys Cross Country	Varsity	1	Boys Skiing	Varsity	2	Girls Track & Field	Varsity	9
	Junior Varsity	0		Junior Varsity	0		Junior Varsity	1
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	1		TOTAL	2		TOTAL	10
Girls Cross Country	Varsity	1	Girls Skiing	Varsity	3	Volleyball	Varsity	48
	Junior Varsity	0		Junior Varsity	0		Junior Varsity	23
	Freshman	0		Freshman	0		Freshman	15
	TOTAL	1		TOTAL	3		TOTAL	86
11-Player Football	Varsity	384	Boys Soccer	Varsity	72	Wrestling	Varsity	62
	Junior Varsity	228		Junior Varsity	16		Junior Varsity	9
	Freshman	73		Freshman	3		Freshman	1
	TOTAL	685		TOTAL	91		TOTAL	72
8-Player Football	Varsity	24	Girls Soccer	Varsity	157			
	Junior Varsity	3		Junior Varsity	39			
	Freshman	0		Freshman	7			
	TOTAL	27		TOTAL	203			
						TOTAL REPORTS		1705

Table 2.2 Head Injury Prevalence Rates by Sport, MHSAA Head Injury Reporting System, 2020-21 School Year

SPORT	Boys*				Girls			
	PARTICIPANTS	HEAD INJURY REPORTS	HEAD INJURY REPORT PREVALENCE RATE	HEAD INJURY REPORTS PER THOUSAND PARTICIPANTS	PARTICIPANTS	HEAD INJURY REPORTS	HEAD INJURY REPORT PREVALENCE RATE	HEAD INJURY REPORTS PER THOUSAND PARTICIPANTS
Baseball	16,053	41	0.26%	3	-	-	-	-
Basketball	18,821	87	0.46%	5	13,185	136	1.03%	10
Bowling	3,516	0	0.00%	0	2,414	0	0.00%	0
Competitive Cheer	-	-	-	-	5,191	51	0.98%	10
Cross Country	8,388	1	0.01%	0	7,248	1	0.01%	0
Football - 11-player	30,745	685	2.23%	22	-	-	-	-
8-player	1,760	27	1.53%	15	-	-	-	-
Golf	6,183	0	0.00%	0	3,585	0	0.00%	0
Gymnastics	-	-	-	-	613	3	0.49%	5
Ice Hockey	3,234	30	0.93%	9	-	-	-	-
Lacrosse	4,510	50	1.11%	11	2,777	41	1.48%	15
Skiing	818	2	0.24%	2	778	3	0.39%	4
Soccer	13,189	91	0.69%	7	11,130	203	1.82%	18
Softball	-	-	-	-	11,389	60	0.53%	5
Swimming & Diving	4,107	2	0.05%	0	5,111	15	0.29%	3
Tennis	5,904	0	0.00%	0	7,125	4	0.06%	1
Track & Field	17,390	4	0.02%	0	12,739	10	0.08%	1
Volleyball	-	-	-	-	18,430	86	0.47%	5
Wrestling	7,579	72	0.95%	9	-	-	-	-

*Boys participation and head injury data includes both males AND females playing on primarily male teams.

Table 2.3 Head Injuries by Grade - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
6th	0	0.0%	0	0.0%	0	0.0%
7th	0	0.0%	0	0.0%	0	0.0%
8th	0	0.0%	1	0.2%	1	0.1%
9th	291	26.9%	149	23.9%	440	25.8%
10th	271	25.0%	185	29.7%	456	26.7%
11th	237	21.9%	130	20.9%	367	21.5%
12th	283	26.2%	158	25.4%	441	25.9%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.4 Head Injuries by Level of Competition - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Freshman	90	8.3%	36	5.8%	126	7.4%
Junior Varsity	314	29.0%	156	25.0%	470	27.6%
Varsity	678	62.7%	431	69.2%	1109	65.0%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.5 Head Injuries by Type of Exposure - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Practice	338	31.2%	182	29.2%	520	30.5%
Competition	744	68.8%	441	70.8%	1185	69.5%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.6 Head Injuries by Time during Practice or Competition of Injury Event - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Start of practice	38	11.2%	20	11.0%	58	11.2%
Middle of practice	181	53.6%	96	52.7%	277	53.3%
End of practice	119	35.2%	66	36.3%	185	35.6%
PRACTICE TOTAL	338	100.0%	182	100.0%	520	100.0%
Start of competition	88	11.8%	49	11.1%	137	11.6%
Middle of competition	356	47.8%	241	54.6%	597	50.4%
End of competition	300	40.3%	151	34.2%	451	38.1%
COMPETITION TOTAL	744	100.0%	441	100.0%	1185	100.0%

Table 2.7 Activity Type for All Head Injury Events during Practice – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
During a drill	239	70.7%	134	73.6%	373	71.7%
During simulated competition-scrimmage	90	26.6%	41	22.5%	131	25.2%
Not specified	9	2.7%	7	3.8%	16	3.1%
TOTAL	338	100.0%	182	100.0%	520	100.0%

Table 2.8 Head Injuries by Cause of Injury Event - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Person to person contact	709	65.5%	193	31.0%	902	52.9%
Person to object contact (e.g. wall, equipment)	82	7.6%	233	37.4%	315	18.5%
Person to playing surface contact	201	18.6%	160	25.7%	361	21.2%
Uncertain as to the cause of the event	90	8.3%	37	5.9%	127	7.4%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.9 Head Injuries by Initial Examiner - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Athletic trainer	684	63.2%	336	53.9%	1020	59.8%
Coach	142	13.1%	139	22.3%	281	16.5%
Sideline emergency personnel	3	0.3%	0	0.0%	3	0.2%
Other appropriate health care professional	17	1.6%	15	2.4%	32	1.9%
DO	4	0.4%	0	0.0%	4	0.2%
MD	21	1.9%	25	4.0%	46	2.7%
PA	4	0.4%	0	0.0%	4	0.2%
NP	1	0.1%	2	0.3%	3	0.2%
Athletic director	15	1.4%	5	0.8%	20	1.2%
Multiple examiners	191	17.7%	101	16.2%	292	17.1%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.10 Athlete Removal from Activity at the Time of Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Removed	882	81.5%	490	78.7%	1372	80.5%
Not removed*	200	18.5%	133	21.3%	333	19.5%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 2.11 Athletes Reporting Previous Concussion after Head Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Reported at least one previous concussion	220	20.3%	131	21.0%	351	20.6%
No reported previous concussions	862	79.7%	492	79.0%	1354	79.4%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.12 Most Recent Concussion for Athletes Reporting Previous Concussion after Head Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Within last month	6	2.7%	5	3.8%	11	3.1%
Within one to six months	7	3.2%	11	8.4%	18	5.1%
Within six months to one year	44	20.0%	21	16.0%	65	18.5%
Over one year	163	74.1%	94	71.8%	257	73.2%
TOTAL	220	100.0%	131	100.0%	351	100.0%

Table 2.13 Number of Previous Concussions for Athletes Reporting Previous Concussion after Head Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
1 concussion	161	73.2%	94	71.8%	255	72.6%
2 concussions	30	13.6%	22	16.8%	52	14.8%
3 concussions	13	5.9%	10	7.6%	23	6.6%
≥4 concussions	15	6.8%	4	3.1%	19	5.4%
Not specified	1	0.5%	1	0.8%	2	0.6%
TOTAL	220	100.0%	131	100.0%	351	100.0%

Table 2.14 Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Event Occurred - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Received written authorization to return by the end of season	805	74.4%	468	75.1%	1273	74.7%
Did not receive written authorization to return by the end of season	193	17.8%	98	15.7%	291	17.1%
Follow-up Report not completed	84	7.8%	57	9.1%	141	8.3%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.15 Head Injuries by Medical Examiner Authorizing Return to Activity - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
MD	455	42.1%	259	41.6%	714	41.9%
DO	186	17.2%	100	16.1%	286	16.8%
PA	72	6.7%	48	7.7%	120	7.0%
NP	93	8.6%	61	9.8%	154	9.0%
Medical examiner data not available*	276	25.5%	155	24.9%	431	25.3%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.16 Head Injuries by Facility where Medical Examiner Authorized Return to Activity - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Hospital	27	2.5%	16	2.6%	43	2.5%
Urgent or Ready Care business	56	5.2%	41	6.6%	97	5.7%
Primary care physician or pediatrician's office	540	49.9%	312	50.1%	852	50.0%
Neurologist's office	69	6.4%	28	4.5%	97	5.7%
Team doctor	114	10.5%	71	11.4%	185	10.9%
Medical facility data not available*	276	25.5%	155	24.9%	431	25.3%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.17 Head Injuries by Clearance Return to Activity Conditions - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Unconditional return	718	66.4%	419	67.3%	1137	66.7%
Conditions to return	88	8.1%	49	7.9%	137	8.0%
Return to activity data not available*	276	25.5%	155	24.9%	431	25.3%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.18 Head Injuries by Missed School Days after Injury Event Date - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
0 Days	541	50.0%	309	49.6%	850	49.9%
1-2 Days	159	14.7%	102	16.4%	261	15.3%
3-6 Days	81	7.5%	33	5.3%	114	6.7%
7-9 Days	6	0.6%	11	1.8%	17	1.0%
10-20 Days	17	1.6%	12	1.9%	29	1.7%
≥21 Days	2	0.2%	1	0.2%	3	0.2%
Missed school data not available*	276	25.5%	155	24.9%	431	25.3%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

Table 2.19 Head Injuries by Time between Injury Event Date and Authorization Date to Return - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2020-21 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
1-2 Days	25	2.3%	12	1.9%	37	2.2%
3-5 Days	91	8.4%	33	5.3%	124	7.3%
6-10 Days	255	23.6%	180	28.9%	435	25.5%
11-15 Days	227	21.0%	128	20.5%	355	20.8%
16-20 Days	88	8.1%	51	8.2%	139	8.2%
≥21 Days	106	9.8%	56	9.0%	162	9.5%
Data not available**	290	26.8%	163	26.2%	453	26.6%
TOTAL	1082	100.0%	623	100.0%	1705	100.0%

141 Missing Follow-up Reports*

291 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

8 Data entry errors**

III. Baseball Head Injury Reports

Table 3.1 Head Injury Prevalence Rate for Baseball, MHSAA Head Injury Reporting System, 2020-21 School Year

Baseball Participation	16,053
All Baseball Head Injuries	41
Baseball Head Injury Prevalence Rate (reported head injuries/total participants)	0.26%
Baseball Head Injury Prevalence Rate Per Thousand Participants	3

Table 3.2 Baseball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	22	53.7%
Junior Varsity	17	41.5%
Freshman	2	4.9%
TOTAL	41	100.0%

Table 3.3 Baseball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	10	24.4%
Competition	31	75.6%
TOTAL	41	100.0%

Table 3.4 Baseball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	2	20.0%
Middle of practice	6	60.0%
End of practice	2	20.0%
PRACTICE TOTAL	10	100.0%
Start of competition	6	19.4%
Middle of competition	15	48.4%
End of competition	10	32.3%
COMPETITION TOTAL	31	100.0%

Table 3.5 Activity Type for All Baseball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	7	70.0%
During simulated competition-scrimmage	2	20.0%
Not specified	1	10.0%
TOTAL	10	100.0%

Table 3.6 Baseball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	18	43.9%
Person to object contact (e.g. wall, equipment)	18	43.9%
Person to playing surface contact	4	9.8%
Uncertain as to the cause of the event	1	2.4%
TOTAL	41	100.0%

Table 3.7 Person to Playing Surface Contact Baseball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Natural grass	2	50.0%
Ground	1	25.0%
Other	1	25.0%
TOTAL	4	100.0%

Table 3.8 Baseball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	22	53.7%
Coach	10	24.4%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	9	22.0%
TOTAL	41	100.0%

Table 3.9 Baseball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	35	85.4%
Not removed*	6	14.6%
TOTAL	41	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 3.10 Baseball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	7	17.1%
No reported previous concussions	34	82.9%
TOTAL	41	100.0%

Table 3.11 Most Recent Concussion for Baseball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	1	14.3%
Within one to six months	0	0.0%
Within six months to one year	3	42.9%
Over one year	3	42.9%
TOTAL	7	100.0%

Table 3.12 Number of Previous Concussions for Baseball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	6	85.7%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	1	14.3%
Not specified	0	0.0%
TOTAL	7	100.0%

Table 3.13 Baseball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	27	65.9%
Did not receive written authorization to return by the end of season	7	17.1%
Follow-up Report not completed	7	17.1%
TOTAL	41	100.0%

Table 3.14 Baseball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	14	34.1%
DO	4	9.8%
PA	5	12.2%
NP	4	9.8%
Medical examiner data not available*	14	34.1%
TOTAL	41	100.0%

Table 3.15 Baseball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	3	7.3%
Urgent or Ready Care business	3	7.3%
Primary care physician or pediatrician's office	17	41.5%
Neurologist's office	3	7.3%
Team doctor	1	2.4%
Medical facility data not available*	14	34.1%
TOTAL	41	100.0%

Table 3.16 Baseball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	26	63.4%
Conditions to return	1	2.4%
Return to activity data not available*	14	34.1%
TOTAL	41	100.0%

Table 3.17 Baseball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	20	48.8%
1-2 Days	4	9.8%
3-6 Days	3	7.3%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	14	34.1%
TOTAL	41	100.0%

Table 3.18 Baseball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	1	2.4%
3-5 Days	8	19.5%
6-10 Days	6	14.6%
11-15 Days	5	12.2%
16-20 Days	2	4.9%
≥21 Days	3	7.3%
Data not available**	16	39.0%
TOTAL	41	100.0%

7 Missing Follow-up Reports*

7 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

2 Data entry errors**

IV. Boys Basketball Head Injury Reports

Table 4.1 Head Injury Prevalence Rate for Boys Basketball, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Basketball Participation	18,821
All Reported Boys Basketball Head Injuries	87
Boys Basketball Head Injury Prevalence Rate (reported head injuries/total participants)	0.46%
Boys Basketball Head Injury Prevalence Rate Per Thousand Participants	5

Table 4.2 Boys Basketball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	40	46.0%
Junior Varsity	36	41.4%
Freshman	11	12.6%
TOTAL	87	100.0%

Table 4.3 Boys Basketball Head Injuries by Gender, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Male	87	100.0%
Female	0	0.0%
TOTAL	87	100.0%

Table 4.4 Boys Basketball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	30	34.5%
Competition	57	65.5%
TOTAL	87	100.0%

Table 4.5 Boys Basketball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	6	20.0%
Middle of practice	14	46.7%
End of practice	10	33.3%
PRACTICE TOTAL	30	100.0%
Start of competition	10	17.5%
Middle of competition	26	45.6%
End of competition	21	36.8%
COMPETITION TOTAL	57	100.0%

Table 4.6 Activity Type for Boys Basketball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	19	63.3%
During simulated competition-scrimmage	9	30.0%
Not specified	2	6.7%
TOTAL	30	100.0%

Table 4.7 Boys Basketball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	40	46.0%
Person to object contact (e.g. wall, equipment)	8	9.2%
Person to playing surface contact	36	41.4%
Uncertain as to the cause of the event	3	3.4%
TOTAL	87	100.0%

Table 4.8 Person to Playing Surface Contact Boys Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Wooden gym floor	33	91.7%
Basketball court	1	2.8%
TOTAL	36	100.0%

Table 4.9 Boys Basketball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	55	63.2%
Coach	18	20.7%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	1.1%
PA	0	0.0%
NP	0	0.0%
Athletic director	2	2.3%
Multiple examiners	11	12.6%
TOTAL	87	100.0%

Table 4.10 Athlete Removal from Activity at the Time of Injury Event – Boys Basketball Head Injuries, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	70	80.5%
Not removed*	17	19.5%
TOTAL	87	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 4.11 Boys Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	10	11.5%
No reported previous concussions	77	88.5%
TOTAL	87	100.0%

Table 4.12 Most Recent Concussion for Boys Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	1	10.0%
Within six months to one year	4	40.0%
Over one year	5	50.0%
TOTAL	10	100.0%

Table 4.13 Number of Previous Concussions for Boys Basketball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	6	60.0%
2 concussions	3	30.0%
3 concussions	1	10.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	10	100.0%

Table 4.14 Boys Basketball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	69	79.3%
Did not receive written authorization to return by the end of season	11	12.6%
Follow-up Report not completed	7	8.0%
TOTAL	87	100.0%

Table 4.15 Boys Basketball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	39	44.8%
DO	11	12.6%
PA	2	2.3%
NP	17	19.5%
Medical examiner data not available*	18	20.7%
TOTAL	87	100.0%

Table 4.16 Boys Basketball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	1.1%
Urgent or Ready Care business	6	6.9%
Primary care physician or pediatrician's office	55	63.2%
Neurologist's office	2	2.3%
Team doctor	5	5.7%
Medical facility data not available*	18	20.7%
TOTAL	87	100.0%

Table 4.17 Boys Basketball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	58	66.7%
Conditions to return	11	12.6%
Return to activity data not available*	18	20.7%
TOTAL	87	100.0%

Table 4.18 Boys Basketball Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	40	46.0%
1-2 Days	17	19.5%
3-6 Days	10	11.5%
7-9 Days	2	2.3%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	18	20.7%
TOTAL	87	100.0%

Table 4.19 Boys Basketball Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	2	2.3%
3-5 Days	10	11.5%
6-10 Days	23	26.4%
11-15 Days	17	19.5%
16-20 Days	5	5.7%
≥21 Days	12	13.8%
Data not available**	18	20.7%
TOTAL	87	100.0%

7 Missing Follow-up Reports*

11 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

V. Girls Basketball Head Injury Reports

Table 5.1 Head Injury Prevalence Rate for Girls Basketball, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Basketball Participation	13,185
All Reported Girls Basketball Head Injuries	136
Girls Basketball Head Injury Prevalence Rate (reported head injuries/total participants)	1.03%
Girls Basketball Head Injury Prevalence Rate Per Thousand Participants	10

Table 5.2 Girls Basketball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	68	50.0%
Junior Varsity	56	41.2%
Freshman	12	8.8%
TOTAL	136	100.0%

Table 5.3 Girls Basketball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	18	13.2%
Competition	118	86.8%
TOTAL	136	100.0%

Table 5.4 Girls Basketball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	1	5.6%
Middle of practice	12	66.7%
End of practice	5	27.8%
PRACTICE TOTAL	18	100.0%
Start of competition	6	5.1%
Middle of competition	62	52.5%
End of competition	50	42.4%
COMPETITION TOTAL	118	100.0%

Table 5.5 Activity Type for Girls Basketball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	13	72.2%
During simulated competition-scrimmage	5	27.8%
Not specified	0	0.0%
TOTAL	18	100.0%

Table 5.6 Girls Basketball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	62	45.6%
Person to object contact (e.g. wall, equipment)	15	11.0%
Person to playing surface contact	52	38.2%
Uncertain as to the cause of the event	7	5.1%
TOTAL	136	100.0%

Table 5.7 Person to Playing Surface Contact Girls Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Wooden gym floor	52	100.0%
TOTAL	52	100.0%

Table 5.8 Girls Basketball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	80	58.8%
Coach	29	21.3%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	5	3.7%
DO	0	0.0%
MD	5	3.7%
PA	0	0.0%
NP	1	0.7%
Athletic director	2	1.5%
Multiple examiners	14	10.3%
TOTAL	136	100.0%

Table 5.9 Girls Basketball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	104	76.5%
Not removed*	32	23.5%
TOTAL	136	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 5.10 Girls Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	27	19.9%
No reported previous concussions	109	80.1%
TOTAL	136	100.0%

Table 5.11 Most Recent Concussion for Girls Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	1	3.7%
Within six months to one year	6	22.2%
Over one year	20	74.1%
TOTAL	27	100.0%

Table 5.12 Number of Previous Concussions for Girls Basketball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	18	66.7%
2 concussions	3	11.1%
3 concussions	4	14.8%
≥4 concussions	2	7.4%
Not specified	0	0.0%
TOTAL	27	100.0%

Table 5.13 Girls Basketball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	112	82.4%
Did not receive written authorization to return by the end of season	17	12.5%
Follow-up Report not completed	7	5.1%
TOTAL	136	100.0%

Table 5.14 Girls Basketball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	63	46.3%
DO	27	19.9%
PA	12	8.8%
NP	10	7.4%
Medical examiner data not available*	24	17.6%
TOTAL	136	100.0%

Table 5.15 Girls Basketball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	7	5.1%
Urgent or Ready Care business	9	6.6%
Primary care physician or pediatrician's office	72	52.9%
Neurologist's office	11	8.1%
Team doctor	13	9.6%
Medical facility data not available*	24	17.6%
TOTAL	136	100.0%

Table 5.16 Girls Basketball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	103	75.7%
Conditions to return	9	6.6%
Return to activity data not available*	24	17.6%
TOTAL	136	100.0%

Table 5.17 Girls Basketball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	69	50.7%
1-2 Days	27	19.9%
3-6 Days	9	6.6%
7-9 Days	3	2.2%
10-20 Days	3	2.2%
≥21 Days	1	0.7%
Missed school data not available*	24	17.6%
TOTAL	136	100.0%

Table 5.18 Girls Basketball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	5	3.7%
3-5 Days	10	7.4%
6-10 Days	46	33.8%
11-15 Days	25	18.4%
16-20 Days	13	9.6%
≥21 Days	12	8.8%
Data not available**	25	18.4%
TOTAL	136	100.0%

7 Missing Follow-up Reports*

17 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

1 Data entry errors**

VI. Boys Bowling Head Injury Reports

Table 6.1 Head Injury Prevalence Rate for Boys Bowling, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Bowling Participation	3,516
All Reported Boys Bowling Head Injuries	0
Boys Bowling Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Boys Bowling Head Injury Prevalence Rate Per Thousand Participants	0

Table 6.2 Boys Bowling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 6.3 Boys Bowling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 6.4 Boys Bowling Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 6.5 Activity Type for Boys Bowling Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 6.6 Boys Bowling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 6.7 Person to Playing Surface Contact Boys Bowling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Wooden floor	0	0.0%
TOTAL	0	0.0%

Table 6.8 Boys Bowling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 6.9 Boys Bowling Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 6.10 Boys Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 6.11 Most Recent Concussion for Boys Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 6.12 Number of Previous Concussions for Boys Bowling Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 6.13 Boys Bowling Head Injuries by Athlete Clearance to Return to Activity Before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 6.14 Boys Bowling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.15 Boys Bowling Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.16 Boys Bowling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.17 Boys Bowling Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.18 Boys Bowling Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

VII. Girls Bowling Head Injury Reports

Table 7.1 Head Injury Prevalence Rate for Girls Bowling, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Bowling Participation	2,414
All Reported Girls Bowling Head Injuries	0
Girls Bowling Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Girls Bowling Head Injury Prevalence Rate Per Thousand Participants	0

Table 7.2 Girls Bowling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 7.3 Girls Bowling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 7.4 Girls Bowling Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 7.5 Activity Type for Girls Bowling Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 7.6 Girls Bowling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 7.7 Person to Playing Surface Contact Girls Bowling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Wooden floor	0	0.0%
TOTAL	0	0.0%

Table 7.8 Girls Bowling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 7.9 Girls Bowling Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 7.10 Girls Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 7.11 Most Recent Concussion for Girls Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 7.12 Number of Previous Concussions for Girls Bowling Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 7.13 Girls Bowling Head Injuries by Athlete Clearance to Return to Activity Before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 7.14 Girls Bowling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.15 Girls Bowling Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.16 Girls Bowling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.17 Girls Bowling Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.18 Girls Bowling Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

VIII. Competitive Cheer Head Injury Reports

Table 8.1 Head Injury Prevalence Rate for Competitive Cheer, MHSAA Head Injury Reporting System, 2020-21 School Year

Competitive Cheer Participation	5,191
All Reported Competitive Cheer Head Injuries	51
Competitive Cheer Head Injury Prevalence Rate (reported head injuries/total participants)	0.98%
Competitive Cheer Head Injury Prevalence Rate Per Thousand Participants	10

Table 8.2 Competitive Cheer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	45	88.2%
Junior Varsity	6	11.8%
Freshman	0	0.0%
TOTAL	51	100.0%

Table 8.3 Competitive Cheer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	48	94.1%
Competition	3	5.9%
TOTAL	51	100.0%

Table 8.4 Competitive Cheer Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	4	8.3%
Middle of practice	30	62.5%
End of practice	14	29.2%
PRACTICE TOTAL	48	100.0%
Start of competition	0	0.0%
Middle of competition	1	33.3%
End of competition	2	66.7%
COMPETITION TOTAL	3	100.0%

Table 8.5 Activity Type for Competitive Cheer Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	34	70.8%
During simulated competition-scrimmage	13	27.1%
Not specified	1	2.1%
TOTAL	48	100.0%

Table 8.6 Competitive Cheer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	29	56.9%
Person to object contact (e.g. wall, equipment)	2	3.9%
Person to playing surface contact	17	33.3%
Uncertain as to the cause of the event	3	5.9%
TOTAL	51	100.0%

Table 8.7 Person to Playing Surface Contact Competitive Cheer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Cheer mat	17	100.0%
TOTAL	17	100.0%

Table 8.8 Competitive Cheer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	25	49.0%
Coach	10	19.6%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	1	2.0%
DO	0	0.0%
MD	2	3.9%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	13	25.5%
TOTAL	51	100.0%

Table 8.9 Competitive Cheer Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	43	84.3%
Not removed*	8	15.7%
TOTAL	51	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 8.10 Competitive Cheer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	17	33.3%
No reported previous concussions	34	66.7%
TOTAL	51	100.0%

Table 8.11 Most Recent Concussion for Competitive Cheer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	1	5.9%
Within one to six months	1	5.9%
Within six months to one year	3	17.6%
Over one year	12	70.6%
TOTAL	17	100.0%

Table 8.12 Number of Previous Concussions for Competitive Cheer Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	13	76.5%
2 concussions	4	23.5%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	17	100.0%

Table 8.13 Competitive Cheer Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	33	64.7%
Did not receive written authorization to return by the end of season	13	25.5%
Follow-up Report not completed	5	9.8%
TOTAL	51	100.0%

Table 8.14 Competitive Cheer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	23	45.1%
DO	6	11.8%
PA	2	3.9%
NP	2	3.9%
Medical examiner data not available*	18	35.3%
TOTAL	51	100.0%

Table 8.15 Competitive Cheer Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	2.0%
Urgent or Ready Care business	2	3.9%
Primary care physician or pediatrician's office	23	45.1%
Neurologist's office	0	0.0%
Team doctor	7	13.7%
Medical facility data not available*	18	35.3%
TOTAL	51	100.0%

Table 8.16 Competitive Cheer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	27	52.9%
Conditions to return	6	11.8%
Return to activity data not available*	18	35.3%
TOTAL	51	100.0%

Table 8.17 Competitive Cheer Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	23	45.1%
1-2 Days	4	7.8%
3-6 Days	2	3.9%
7-9 Days	1	2.0%
10-20 Days	3	5.9%
≥21 Days	0	0.0%
Missed school data not available*	18	35.3%
TOTAL	51	100.0%

Table 8.18 Competitive Cheer Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	1	2.0%
3-5 Days	1	2.0%
6-10 Days	11	21.6%
11-15 Days	11	21.6%
16-20 Days	4	7.8%
≥21 Days	5	9.8%
Data not available**	18	35.3%
TOTAL	51	100.0%

5 Missing Follow-up Reports*

13 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

IX. Boys Cross Country Head Injury Reports

Table 9.1 Head Injury Prevalence Rate for Boys Cross Country, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Cross Country Participation	8,388
All Reported Boys Cross Country Head Injuries	1
Boys Cross Country Head Injury Prevalence Rate (reported head injuries/total participants)	0.01%
Boys Cross Country Head Injury Prevalence Rate Per Thousand Participants	0

Table 9.2 Boys Cross Country Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	1	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	1	100.0%

Table 9.3 Boys Cross Country Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	0	0.0%
Competition	1	100.0%
TOTAL	1	100.0%

Table 9.4 Boys Cross Country Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	1	100.0%
End of competition	0	0.0%
COMPETITION TOTAL	1	100.0%

Table 9.5 Activity Type for Boys Cross Country Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 9.6 Boys Cross Country Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	1	100.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	1	100.0%

Table 9.7 Person to Playing Surface Contact Boys Cross Country Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
N/A	0	0.0%
TOTAL	0	0.0%

Table 9.8 Boys Cross Country Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	100.0%
TOTAL	1	100.0%

Table 9.9 Boys Cross Country Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	1	100.0%
Not removed*	0	0.0%
TOTAL	1	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 9.10 Boys Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	1	100.0%
TOTAL	1	100.0%

Table 9.11 Most Recent Concussion for Boys Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 9.12 Number of Previous Concussions for Boys Cross Country Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 9.13 Boys Cross Country Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	1	100.0%
Follow-up Report not completed	0	0.0%
TOTAL	1	100.0%

Table 9.14 Boys Cross Country Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	1	100.0%
TOTAL	1	100.0%

Table 9.15 Boys Cross Country Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	100.0%
TOTAL	1	100.0%

Table 9.16 Boys Cross Country Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	1	100.0%
TOTAL	1	100.0%

Table 9.17 Boys Cross Country Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	1	100.0%
TOTAL	1	100.0%

Table 9.18 Boys Cross Country Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	1	100.0%
TOTAL	1	100.0%

0 Missing Follow-up Reports*

1 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

X. Girls Cross Country Head Injury Reports

Table 10.1 Head Injury Prevalence Rate for Girls Cross Country, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Cross Country Participation	7,248
All Reported Girls Cross Country Head Injuries	1
Girls Cross Country Head Injury Prevalence Rate (reported head injuries/total participants)	0.01%
Girls Cross Country Head Injury Prevalence Rate Per Thousand Participants	0

Table 10.2 Girls Cross Country Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	1	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	1	100.0%

Table 10.3 Girls Cross Country Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	1	100.0%
Competition	0	0.0%
TOTAL	1	100.0%

Table 10.4 Girls Cross Country Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	1	100.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	1	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 10.5 Activity Type for Girls Cross Country Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	1	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 10.6 Girls Cross Country Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	1	100.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	1	100.0%

Table 10.7 Person to Playing Surface Contact Girls Cross Country Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Dirt trail	0	0.0%
TOTAL	0	0.0%

Table 10.8 Girls Cross Country Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	1	100.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	1	100.0%

Table 10.9 Girls Cross Country Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	1	100.0%
Not removed*	0	0.0%
TOTAL	1	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 10.10 Girls Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	1	100.0%
TOTAL	1	100.0%

Table 10.11 Most Recent Concussion for Girls Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 10.12 Number of Previous Concussions for Girls Cross Country Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 10.13 Girls Cross Country Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	1	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	1	100.0%

Table 10.14 Girls Cross Country Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	1	100.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	1	100.0%

Table 10.15 Girls Cross Country Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	1	100.0%
Medical facility data not available*	0	0.0%
TOTAL	1	100.0%

Table 10.16 Girls Cross Country Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	1	100.0%
Return to activity data not available*	0	0.0%
TOTAL	1	100.0%

Table 10.17 Girls Cross Country Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	1	100.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	1	100.0%

Table 10.18 Girls Cross Country Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	100.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	1	100.0%

0 Missing-follow Up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XI. 11-Player Football Head Injury Reports

Table 11.1 Head Injury Prevalence Rate for 11-Player Football, MHSAA Head Injury Reporting System, 2020-21 School Year

11-Player Football Participation	30,745
All Reported 11-Player Football Head Injuries	685
11-Player Football Head Injury Prevalence Rate (reported head injuries/total participants)	2.23%
11-Player Football Head Injury Prevalence Rate Per Thousand Participants	22

Table 11.2 11-Player Football Head Injuries by Gender, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Male	684	99.9%
Female	1	0.1%
TOTAL	685	100.0%

Table 11.3 11-Player Football Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	384	56.1%
Junior Varsity	228	33.3%
Freshman	73	10.7%
TOTAL	685	100.0%

Table 11.4 11-Player Football Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	234	34.2%
Competition	451	65.8%
TOTAL	685	100.0%

Table 11.5 11-Player Football Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	24	10.3%
Middle of practice	123	52.6%
End of practice	87	37.2%
PRACTICE TOTAL	234	100.0%
Start of competition	51	11.3%
Middle of competition	206	45.7%
End of competition	194	43.0%
COMPETITION TOTAL	451	100.0%

Table 11.6 Activity Type for 11-Player Football Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	170	72.6%
During simulated competition-scrimmage	59	25.2%
Not specified	5	2.1%
TOTAL	234	100.0%

Table 11.7 11-Player Football Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	512	74.7%
Person to object contact (e.g. wall, equipment)	5	0.7%
Person to playing surface contact	106	15.5%
Uncertain as to the cause of the event	62	9.1%
TOTAL	685	100.0%

Table 11.8 Person to Playing Surface Contact 11-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Natural grass	50	47.6%
Artificial turf	51	48.6%
Football field	2	1.9%
Other	2	1.9%
TOTAL	105	100.0%

Table 11.9 11-Player Football Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	458	66.9%
Coach	66	9.6%
Sideline emergency personnel	3	0.4%
Other appropriate health care professional	15	2.2%
DO	3	0.4%
MD	12	1.8%
PA	1	0.1%
NP	1	0.1%
Athletic director	6	0.9%
Multiple examiners	120	17.5%
TOTAL	685	100.0%

Table 11.10 11-Player Football Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	546	79.7%
Not removed*	139	20.3%
TOTAL	685	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 11.11 11-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	150	21.9%
No reported previous concussions	535	78.1%
TOTAL	685	100.0%

Table 11.12 Most Recent Concussion for 11-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	1	0.7%
Within one to six months	4	2.7%
Within six months to one year	26	17.3%
Over one year	119	79.3%
TOTAL	150	100.0%

Table 11.13 Number of Previous Concussions for 11-Player Football Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	107	71.3%
2 concussions	21	14.0%
3 concussions	9	6.0%
≥4 concussions	12	8.0%
Not specified	1	0.7%
TOTAL	150	100.0%

Table 11.14 11-Player Football Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	505	73.7%
Did not receive written authorization to return by the end of season	132	19.3%
Follow-up Report not completed	48	7.0%
TOTAL	685	100.0%

Table 11.15 11-Player Football Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	279	40.7%
DO	128	18.7%
PA	50	7.3%
NP	49	7.2%
Medical examiner data not available*	179	26.1%
TOTAL	685	100.0%

Table 11.16 11-Player Football Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	20	2.9%
Urgent or Ready Care business	32	4.7%
Primary care physician or pediatrician's office	326	47.6%
Neurologist's office	43	6.3%
Team doctor	85	12.4%
Medical facility data not available*	179	26.1%
TOTAL	685	100.0%

Table 11.17 11-Player Football Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	455	66.4%
Conditions to return	51	7.4%
Return to activity data not available*	179	26.1%
TOTAL	685	100.0%

Table 11.18 11-Player Football Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	350	51.1%
1-2 Days	94	13.7%
3-6 Days	41	6.0%
7-9 Days	4	0.6%
10-20 Days	16	2.3%
≥21 Days	1	0.1%
Missed school data not available*	179	26.1%
TOTAL	685	100.0%

Table 11.19 11-Player Football Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	11	1.6%
3-5 Days	56	8.2%
6-10 Days	145	21.2%
11-15 Days	158	23.1%
16-20 Days	64	9.3%
≥21 Days	63	9.2%
Data not available**	188	27.4%
TOTAL	685	100.0%

48 Missing Follow-up Reports*

132 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

8 Data entry errors**

XII. 8-Player Football Head Injuries Reports

Table 12.1 Head Injury Prevalence Rate for 8-Player Football, MHSAA Head Injury Reporting System, 2020-21 School Year

8-Player Football Participation	1,760
All Reported 8-Player Football Head Injuries	27
8-Player Football Head Injury Prevalence Rate (reported head injuries/total participants)	1.53%
8-Player Football Head Injury Prevalence Rate Per Thousand Participants	15

Table 12.2 8-Player Football Head Injuries by Gender, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Male	27	100.0%
Female	0	0.0%
TOTAL	27	100.0%

Table 12.3 8-Player Football Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	24	88.9%
Junior Varsity	3	11.1%
Freshman	0	0.0%
TOTAL	27	100.0%

Table 12.4 8-Player Football Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	4	14.8%
Competition	23	85.2%
TOTAL	27	100.0%

Table 12.5 8-Player Football Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	1	25.0%
Middle of practice	3	75.0%
End of practice	0	0.0%
PRACTICE TOTAL	4	100.0%
Start of competition	3	13.0%
Middle of competition	12	52.2%
End of competition	8	34.8%
COMPETITION TOTAL	23	100.0%

Table 12.6 Activity Type for 8-Player Football Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	4	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	4	100.0%

Table 12.7 8-Player Football Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	21	77.8%
Person to object contact (e.g. wall, equipment)	1	3.7%
Person to playing surface contact	2	7.4%
Uncertain as to the cause of the event	3	11.1%
TOTAL	27	100.0%

Table 12.8 Person to Playing Surface Contact 8-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Natural grass	2	100.0%
Artificial turf	0	0.0%
TOTAL	2	100.0%

Table 12.9 8-Player Football Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	4	14.8%
Coach	9	33.3%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	3	11.1%
PA	0	0.0%
NP	0	0.0%
Athletic director	1	3.7%
Multiple examiners	10	37.0%
TOTAL	27	100.0%

Table 12.10 8-Player Football Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	23	85.2%
Not removed*	4	14.8%
TOTAL	27	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 12.11 8-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	4	14.8%
No reported previous concussions	23	85.2%
TOTAL	27	100.0%

Table 12.12 Most Recent Concussion for 8-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	2	50.0%
Within one to six months	0	0.0%
Within six months to one year	2	50.0%
Over one year	0	0.0%
TOTAL	4	100.0%

Table 12.13 Number of Previous Concussions for 8-Player Football Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	2	50.0%
2 concussions	2	50.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	4	100.0%

Table 12.14 8-Player Football Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	13	48.1%
Did not receive written authorization to return by the end of season	6	22.2%
Follow-up Report not completed	8	29.6%
TOTAL	27	100.0%

Table 12.15 8-Player Football Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	5	18.5%
DO	1	3.7%
PA	3	11.1%
NP	4	14.8%
Medical examiner data not available*	14	51.9%
TOTAL	27	100.0%

Table 12.16 8-Player Football Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	3.7%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	11	40.7%
Neurologist's office	1	3.7%
Team doctor	0	0.0%
Medical facility data not available*	14	51.9%
TOTAL	27	100.0%

Table 12.17 8-Player Football Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	12	44.4%
Conditions to return	1	3.7%
Return to activity data not available*	14	51.9%
TOTAL	27	100.0%

Table 12.18 8-Player Football Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	8	29.6%
1-2 Days	3	11.1%
3-6 Days	2	7.4%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	14	51.9%
TOTAL	27	100.0%

Table 12.19 8-Player Football Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	4	14.8%
11-15 Days	5	18.5%
16-20 Days	1	3.7%
≥21 Days	3	11.1%
Data not available**	14	51.9%
TOTAL	27	100.0%

8 Missing Follow-up Reports*

6 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XIII. Boys Golf Head Injury Reports

Table 13.1 Head Injury Prevalence Rate for Boys Golf, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Golf Participation	6,183
All Boys Golf Head Injuries	0
Boys Golf Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Boys Golf Head Injury Prevalence Rate Per Thousand Participants	0

Table 13.2 Boys Golf Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 13.3 Boys Golf Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 13.4 Boys Golf Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 13.5 Activity Type for Boys Golf Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 13.6 Boys Golf Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 13.7 Person to Playing Surface Contact Boys Golf Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
n/a	0	0.0%
TOTAL	0	0.0%

Table 13.8 Boys Golf Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 13.9 Boys Golf Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 13.10 Boys Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 13.11 Most Recent Concussion for Boys Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 13.12 Number of Previous Concussions for Boys Golf Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 13.13 Boys Golf Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 13.14 Boys Golf Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 13.15 Boys Golf Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	1	50.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	50.0%
TOTAL	2	100.0%

Table 13.16 Boys Golf Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 13.17 Boys Golf Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 13.18 Boys Golf Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XIV. Girls Golf Head Injury Reports

Table 14.1 Head Injury Prevalence Rate for Girls Golf, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Golf Participation	3,585
All Reported Girls Golf Head Injuries	0
Girls Golf Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Girls Golf Head Injury Prevalence Rate Per Thousand Participants	0

Table 14.2 Girls Golf Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 14.3 Girls Golf Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 14.4 Girls Golf Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 14.5 Activity Type for Girls Golf Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 14.6 Girls Golf Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 14.7 Person to Playing Surface Contact Girls Golf Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Natural grass	0	0.0%
TOTAL	0	0.0%

Table 14.8 Girls Golf Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 14.9 Girls Golf Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 14.10 Girls Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 14.11 Most Recent Concussion for Girls Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 14.12 Number of Previous Concussions for Girls Golf Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 14.13 Girls Golf Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 14.14 Girls Golf Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 14.15 Girls Golf Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 14.16 Girls Golf Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 14.17 Girls Golf Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 14.18 Girls Golf Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XV. Gymnastics Head Injury Reports

Table 15.1 Head Injury Prevalence Rate for Gymnastics, MHSAA Head Injury Reporting System, 2020-21 School Year

Gymnastics Participation	613
All Reported Gymnastics Head Injuries	3
Gymnastics Head Injury Prevalence Rate (reported head injuries/total participants)	0.49%
Gymnastics Head Injury Prevalence Rate Per Thousand Participants	5

Table 15.2 Gymnastics Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	3	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	3	100.0%

Table 15.3 Gymnastics Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	1	33.3%
Competition	2	66.7%
TOTAL	3	100.0%

Table 15.4 Gymnastics Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	1	100.0%
PRACTICE TOTAL	1	100.0%
Start of competition	0	0.0%
Middle of competition	1	50.0%
End of competition	1	50.0%
COMPETITION TOTAL	2	100.0%

Table 15.5 Activity Type for Gymnastics Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	1	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 15.6 Gymnastics Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	1	33.3%
Person to playing surface contact	2	66.7%
Uncertain as to the cause of the event	0	0.0%
TOTAL	3	100.0%

Table 15.7 Person to Playing Surface Contact Gymnastics Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Wrestling-type mat	0	0.0%
Gymnastics mat	1	100.0%
Gymnastics flooring	0	0.0%
TOTAL	1	100.0%

Table 15.8 Gymnastics Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	3	100.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	3	100.0%

Table 15.9 Gymnastics Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	1	33.3%
Not removed*	2	66.7%
TOTAL	3	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 15.10 Gymnastics Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	3	100.0%
TOTAL	3	100.0%

Table 15.11 Most Recent Concussion for Gymnastics Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 15.12 Number of Previous Concussions for Gymnastics Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 15.13 Gymnastics Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	3	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	3	100.0%

Table 15.14 Gymnastics Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	2	66.7%
DO	0	0.0%
PA	1	33.3%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	3	100.0%

Table 15.15 Gymnastics Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	3	100.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	3	100.0%

Table 15.16 Gymnastics Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	3	100.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	3	100.0%

Table 15.17 Gymnastics Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	1	33.3%
1-2 Days	2	66.7%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	3	100.0%

Table 15.18 Gymnastics Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	33.3%
11-15 Days	2	66.7%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	3	100.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XVI. Ice Hockey Head Injury Reports

Table 16.1 Head Injury Prevalence Rate for Ice Hockey, MHSAA Head Injury Reporting System, 2020-21 School Year

Ice Hockey Participation	3,234
All Reported Ice Hockey Head Injuries	30
Ice Hockey Head Injury Prevalence Rate (reported head injuries/total participants)	0.93%
Ice Hockey Head Injury Prevalence Rate Per Thousand Participants	9

Table 16.2 Ice Hockey Head Injuries by Gender, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Male	30	100.0%
Female	0	0.0%
TOTAL	30	100.0%

Table 16.3 Ice Hockey Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	26	86.7%
Junior Varsity	4	13.3%
Freshman	0	0.0%
TOTAL	30	100.0%

Table 16.4 Ice Hockey Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	4	13.3%
Competition	26	86.7%
TOTAL	30	100.0%

Table 16.5 Ice Hockey Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	3	75.0%
End of practice	1	25.0%
PRACTICE TOTAL	4	100.0%
Start of competition	6	23.1%
Middle of competition	11	42.3%
End of competition	9	34.6%
COMPETITION TOTAL	26	100.0%

Table 16.6 Activity Type for Ice Hockey Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	4	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	4	100.0%

Table 16.7 Ice Hockey Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	14	46.7%
Person to object contact (e.g. wall, equipment)	7	23.3%
Person to playing surface contact	3	10.0%
Uncertain as to the cause of the event	6	20.0%
TOTAL	30	100.0%

Table 16.8 Person to Playing Surface Contact Ice Hockey Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Ice	3	100.0%
TOTAL	3	100.0%

Table 16.9 Ice Hockey Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	23	76.7%
Coach	2	6.7%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	1	3.3%
NP	0	0.0%
Athletic director	1	3.3%
Multiple examiners	3	10.0%
TOTAL	30	100.0%

Table 16.10 Ice Hockey Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	29	96.7%
Not removed*	1	3.3%
TOTAL	30	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 16.11 Ice Hockey Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	9	30.0%
No reported previous concussions	21	70.0%
TOTAL	30	100.0%

Table 16.12 Most Recent Concussion for Ice Hockey Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	1	11.1%
Over one year	8	88.9%
TOTAL	9	100.0%

Table 16.13 Number of Previous Concussions for Ice Hockey Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	8	88.9%
2 concussions	0	0.0%
3 concussions	1	11.1%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	9	100.0%

Table 16.14 Ice Hockey Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	24	80.0%
Did not receive written authorization to return by the end of season	5	16.7%
Follow-up Report not completed	1	3.3%
TOTAL	30	100.0%

Table 16.15 Ice Hockey Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	15	50.0%
DO	2	6.7%
PA	3	10.0%
NP	4	13.3%
Medical examiner data not available*	6	20.0%
TOTAL	30	100.0%

Table 16.16 Ice Hockey Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	4	13.3%
Primary care physician or pediatrician's office	14	46.7%
Neurologist's office	4	13.3%
Team doctor	2	6.7%
Medical facility data not available*	6	20.0%
TOTAL	30	100.0%

Table 16.17 Ice Hockey Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	22	73.3%
Conditions to return	2	6.7%
Return to activity data not available*	6	20.0%
TOTAL	30	100.0%

Table 16.18 Ice Hockey Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	17	56.7%
1-2 Days	4	13.3%
3-6 Days	3	10.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	6	20.0%
TOTAL	30	100.0%

Table 16.19 Ice Hockey Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	2	6.7%
3-5 Days	6	20.0%
6-10 Days	6	20.0%
11-15 Days	4	13.3%
16-20 Days	2	6.7%
≥21 Days	3	10.0%
Data not available**	7	23.3%
TOTAL	30	100.0%

1 Missing Follow-up Reports*

5 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

1 Data entry errors**

XVII. Boys Lacrosse Head Injury Reports

Table 17.1 Head Injury Prevalence Rate for Boys Lacrosse, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Lacrosse Participation	4,510
All Boys Lacrosse Head Injuries	50
Boys Lacrosse Head Injury Prevalence Rate (reported head injuries/total participants)	1.11%
Boys Lacrosse Head Injury Prevalence Rate Per Thousand Participants	11

Table 17.2 Boys Lacrosse Head Injuries by Gender, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Male	49	98.0%
Female	1	2.0%
TOTAL	50	100.0%

Table 17.3 Boys Lacrosse Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	45	90.0%
Junior Varsity	5	10.0%
Freshman	0	0.0%
TOTAL	50	100.0%

Table 17.4 Boys Lacrosse Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	10	20.0%
Competition	40	80.0%
TOTAL	50	100.0%

Table 17.5 Boys Lacrosse Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	1	10.0%
Middle of practice	7	70.0%
End of practice	2	20.0%
PRACTICE TOTAL	10	100.0%
Start of competition	4	10.0%
Middle of competition	20	50.0%
End of competition	16	40.0%
COMPETITION TOTAL	40	100.0%

Table 17.6 Activity Type for Boys Lacrosse Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	8	80.0%
During simulated competition-scrimmage	2	20.0%
Not specified	0	0.0%
TOTAL	10	100.0%

Table 17.7 Boys Lacrosse Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	35	70.0%
Person to object contact (e.g. wall, equipment)	8	16.0%
Person to playing surface contact	6	12.0%
Uncertain as to the cause of the event	1	2.0%
TOTAL	50	100.0%

Table 17.8 Person to Playing Surface Contact Boys Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Artificial turf	4	66.7%
Natural grass	2	33.3%
TOTAL	6	33.3%

Table 17.9 Boys Lacrosse Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	30	60.0%
Coach	8	16.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	2.0%
PA	2	4.0%
NP	0	0.0%
Athletic director	4	8.0%
Multiple examiners	5	10.0%
TOTAL	50	100.0%

Table 17.10 Boys Lacrosse Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	44	88.0%
Not removed*	6	12.0%
TOTAL	50	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 17.11 Boys Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	13	26.0%
No reported previous concussions	37	74.0%
TOTAL	50	100.0%

Table 17.12 Most Recent Concussion for Boys Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	1	7.7%
Within one to six months	2	15.4%
Within six months to one year	0	0.0%
Over one year	10	76.9%
TOTAL	13	100.0%

Table 17.13 Number of Previous Concussions for Boys Lacrosse Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	11	84.6%
2 concussions	1	7.7%
3 concussions	0	0.0%
≥4 concussions	1	7.7%
Not specified	0	0.0%
TOTAL	13	100.0%

Table 17.14 Boys Lacrosse Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	42	84.0%
Did not receive written authorization to return by the end of season	4	8.0%
Follow-up Report not completed	4	8.0%
TOTAL	50	100.0%

Table 17.15 Boys Lacrosse Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	28	56.0%
DO	12	24.0%
PA	1	2.0%
NP	1	2.0%
Medical examiner data not available*	8	16.0%
TOTAL	50	100.0%

Table 17.16 Boys Lacrosse Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	2.0%
Urgent or Ready Care business	4	8.0%
Primary care physician or pediatrician's office	27	54.0%
Neurologist's office	6	12.0%
Team doctor	4	8.0%
Medical facility data not available*	8	16.0%
TOTAL	50	100.0%

Table 17.17 Boys Lacrosse Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	38	76.0%
Conditions to return	4	8.0%
Return to activity data not available*	8	16.0%
TOTAL	50	100.0%

Table 17.18 Boys Lacrosse Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	30	60.0%
1-2 Days	11	22.0%
3-6 Days	1	2.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	8	16.0%
TOTAL	50	100.0%

Table 17.19 Boys Lacrosse Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	3	6.0%
3-5 Days	2	4.0%
6-10 Days	18	36.0%
11-15 Days	9	18.0%
16-20 Days	2	4.0%
≥21 Days	8	16.0%
Data not available**	8	16.0%
TOTAL	50	100.0%

4 Missing Follow-up Reports*

4 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XVIII. Girls Lacrosse Head Injuries

Table 18.1 Head Injury Prevalence Rate for Girls Lacrosse, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Lacrosse Participation	2,777
All Girls Lacrosse Head Injuries	41
Girls Lacrosse Head Injury Prevalence Rate (reported head injuries/total participants)	1.48%
Girls Lacrosse Head Injury Prevalence Rate Per Thousand Participants	15

Table 18.2 Girls Lacrosse Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	34	82.9%
Junior Varsity	7	17.1%
Freshman	0	0.0%
TOTAL	41	100.0%

Table 18.3 Girls Lacrosse Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	4	9.8%
Competition	37	90.2%
TOTAL	41	100.0%

Table 18.4 Girls Lacrosse Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	2	50.0%
Middle of practice	0	0.0%
End of practice	2	50.0%
PRACTICE TOTAL	4	100.0%
Start of competition	8	21.6%
Middle of competition	14	37.8%
End of competition	15	40.5%
COMPETITION TOTAL	37	100.0%

Table 18.5 Activity Type for Girls Lacrosse Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	2	50.0%
During simulated competition-scrimmage	1	25.0%
Not specified	1	25.0%
TOTAL	4	100.0%

Table 18.6 Girls Lacrosse Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	6	14.6%
Person to object contact (e.g. wall, equipment)	24	58.5%
Person to playing surface contact	8	19.5%
Uncertain as to the cause of the event	3	7.3%
TOTAL	41	100.0%

Table 18.7 Person to Playing Surface Contact Girls Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Artificial turf	4	50.0%
Natural grass	2	25.0%
Wooden gym floor	1	12.5%
Other	1	12.5%
TOTAL	8	50.0%

Table 18.8 Girls Lacrosse Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	28	68.3%
Coach	6	14.6%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	2	4.9%
DO	0	0.0%
MD	2	4.9%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	3	7.3%
TOTAL	41	100.0%

Table 18.9 Girls Lacrosse Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	33	80.5%
Not removed*	8	19.5%
TOTAL	41	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 18.10 Girls Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	6	14.6%
No reported previous concussions	35	85.4%
TOTAL	41	100.0%

Table 18.11 Most Recent Concussion for Girls Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	1	16.7%
Within six months to one year	0	0.0%
Over one year	5	83.3%
TOTAL	6	100.0%

Table 18.12 Number of Previous Concussions for Girls Lacrosse Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	3	50.0%
2 concussions	1	16.7%
3 concussions	2	33.3%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	6	100.0%

Table 18.13 Girls Lacrosse Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	29	70.7%
Did not receive written authorization to return by the end of season	7	17.1%
Follow-up Report not completed	5	12.2%
TOTAL	41	100.0%

Table 18.14 Girls Lacrosse Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	14	34.1%
DO	8	19.5%
PA	4	9.8%
NP	3	7.3%
Medical examiner data not available*	12	29.3%
TOTAL	41	100.0%

Table 18.15 Girls Lacrosse Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	2.4%
Urgent or Ready Care business	1	2.4%
Primary care physician or pediatrician's office	16	39.0%
Neurologist's office	1	2.4%
Team doctor	10	24.4%
Medical facility data not available*	12	29.3%
TOTAL	41	100.0%

Table 18.16 Girls Lacrosse Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	25	61.0%
Conditions to return	4	9.8%
Return to activity data not available*	12	29.3%
TOTAL	41	100.0%

Table 18.17 Girls Lacrosse Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	19	46.3%
1-2 Days	7	17.1%
3-6 Days	1	2.4%
7-9 Days	1	2.4%
10-20 Days	1	2.4%
≥21 Days	0	0.0%
Missed school data not available*	12	29.3%
TOTAL	41	100.0%

Table 18.18 Girls Lacrosse Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	3	7.3%
6-10 Days	9	22.0%
11-15 Days	8	19.5%
16-20 Days	4	9.8%
≥21 Days	5	12.2%
Data not available**	12	29.3%
TOTAL	41	100.0%

5 Missing Follow-up Reports*

7 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XIX. Boys Skiing Head Injury Reports

Table 19.1 Head Injury Prevalence Rate for Boys Skiing, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Skiing Participation	818
All Reported Boys Skiing Head Injuries	2
Boys Skiing Head Injury Prevalence Rate (reported head injuries/total participants)	0.24%
Boys Skiing Head Injury Prevalence Rate Per Thousand Participants	2

Table 19.2 Boys Skiing Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	2	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	2	100.0%

Table 19.3 Boys Skiing Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	1	50.0%
Competition	1	50.0%
TOTAL	2	100.0%

Table 19.4 Boys Skiing Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	1	100.0%
PRACTICE TOTAL	1	100.0%
Start of competition	0	0.0%
Middle of competition	1	100.0%
End of competition	0	0.0%
COMPETITION TOTAL	1	100.0%

Table 19.5 Activity Type for Boys Skiing Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	1	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 19.6 Boys Skiing Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	1	50.0%
Person to playing surface contact	1	50.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	2	100.0%

Table 19.7 Person to Playing Surface Contact Boys Skiing Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Snow/ice covered ground	1	100.0%
TOTAL	1	100.0%

Table 19.8 Boys Skiing Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	1	50.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	50.0%
TOTAL	2	100.0%

Table 19.9 Boys Skiing Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	2	100.0%
Not removed*	0	0.0%
TOTAL	2	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 19.10 Boys Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	2	100.0%
TOTAL	2	100.0%

Table 19.11 Most Recent Concussion for Boys Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 19.12 Number of Previous Concussions for Boys Skiing Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 19.13 Boys Skiing Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	2	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	2	100.0%

Table 19.14 Boys Skiing Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	1	50.0%
DO	1	50.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	2	100.0%

Table 19.15 Boys Skiing Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	2	100.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	2	100.0%

Table 19.16 Boys Skiing Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	2	100.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	2	100.0%

Table 19.17 Boys Skiing Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	2	100.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	2	100.0%

Table 19.18 Boys Skiing Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	50.0%
11-15 Days	1	50.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	2	100.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XX. Girls Skiing Head Injury Reports

Table 20.1 Head Injury Prevalence Rate for Girls Skiing, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Skiing Participation	778
All Reported Girls Skiing Head Injuries	3
Girls Skiing Head Injury Prevalence Rate (reported head injuries/total participants)	0.39%
Girls Skiing Head Injury Prevalence Rate Per Thousand Participants	4

Table 20.2 Girls Skiing Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	3	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	3	100.0%

Table 20.3 Girls Skiing Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	2	66.7%
Competition	1	33.3%
TOTAL	3	100.0%

Table 20.4 Girls Skiing Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	2	100.0%
End of practice	0	0.0%
PRACTICE TOTAL	2	100.0%
Start of competition	0	0.0%
Middle of competition	1	100.0%
End of competition	0	0.0%
COMPETITION TOTAL	1	100.0%

Table 20.5 Activity Type for Girls Skiing Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	1	50.0%
During simulated competition-scrimmage	1	50.0%
Not specified	0	0.0%
TOTAL	2	100.0%

Table 20.6 Girls Skiing Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	3	100.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	3	100.0%

Table 20.7 Person to Playing Surface Contact Girls Skiing Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Snow/ice covered ground	3	100.0%
TOTAL	3	100.0%

Table 20.8 Girls Skiing Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	1	33.3%
Coach	2	66.7%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	3	100.0%

Table 20.9 Girls Skiing Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	2	66.7%
Not removed*	1	33.3%
TOTAL	3	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 20.10 Girls Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	3	100.0%
TOTAL	3	100.0%

Table 20.11 Most Recent Concussion for Girls Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 20.12 Number of Previous Concussions for Girls Skiing Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 20.13 Girls Skiing Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	3	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	3	100.0%

Table 20.14 Girls Skiing Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	1	33.3%
DO	0	0.0%
PA	0	0.0%
NP	2	66.7%
Medical examiner data not available*	0	0.0%
TOTAL	3	100.0%

Table 20.15 Girls Skiing Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	3	100.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	3	100.0%

Table 20.16 Girls Skiing Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	2	66.7%
Conditions to return	1	33.3%
Return to activity data not available*	0	0.0%
TOTAL	3	100.0%

Table 20.17 Girls Skiing Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	1	33.3%
1-2 Days	2	66.7%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	3	100.0%

Table 20.18 Girls Skiing Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	1	33.3%
6-10 Days	1	33.3%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	1	33.3%
Data not available**	0	0.0%
TOTAL	3	100.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXI. Boys Soccer Head Injury Reports

Table 21.1 Head Injury Prevalence Rate for Boys Soccer, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Soccer Participation	13,189
All Reported Boys Soccer Head Injuries	91
Boys Soccer Head Injury Prevalence Rate (reported head injuries/total participants)	0.69%
Boys Soccer Head Injury Prevalence Rate Per Thousand Participants	7

Table 21.2 Boys Soccer Head Injuries by Gender, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Male	90	98.9%
Female	1	1.1%
TOTAL	91	100.0%

Table 21.3 Boys Soccer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	72	79.1%
Junior Varsity	16	17.6%
Freshman	3	3.3%
TOTAL	91	100.0%

Table 21.4 Boys Soccer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	17	18.7%
Competition	74	81.3%
TOTAL	91	100.0%

Table 21.5 Boys Soccer Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	2	11.8%
Middle of practice	11	64.7%
End of practice	4	23.5%
PRACTICE TOTAL	17	100.0%
Start of competition	4	5.4%
Middle of competition	42	56.8%
End of competition	28	37.8%
COMPETITION TOTAL	74	100.0%

Table 21.6 Activity Type for Boys Soccer Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	7	41.2%
During simulated competition-scrimmage	10	58.8%
Not specified	0	0.0%
TOTAL	17	100.0%

Table 21.7 Boys Soccer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	44	48.4%
Person to object contact (e.g. wall, equipment)	34	37.4%
Person to playing surface contact	7	7.7%
Uncertain as to the cause of the event	6	6.6%
TOTAL	91	100.0%

Table 21.8 Person to Playing Surface Contact Boys Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Natural grass	6	85.7%
Artificial turf	1	14.3%
TOTAL	7	100.0%

Table 21.9 Boys Soccer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	58	63.7%
Coach	14	15.4%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	1	1.1%
DO	1	1.1%
MD	2	2.2%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	15	16.5%
TOTAL	91	100.0%

Table 21.10 Boys Soccer Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	78	85.7%
Not removed*	13	14.3%
TOTAL	91	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 21.11 Boys Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	19	20.9%
No reported previous concussions	72	79.1%
TOTAL	91	100.0%

Table 21.12 Most Recent Concussion for Boys Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	1	5.3%
Within one to six months	0	0.0%
Within six months to one year	7	36.8%
Over one year	11	57.9%
TOTAL	19	100.0%

Table 21.13 Number of Previous Concussions for Boys Soccer Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	15	78.9%
2 concussions	1	5.3%
3 concussions	2	10.5%
≥4 concussions	1	5.3%
Not specified	0	0.0%
TOTAL	19	100.0%

Table 21.14 Boys Soccer Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	75	82.4%
Did not receive written authorization to return by the end of season	11	12.1%
Follow-up Report not completed	5	5.5%
TOTAL	91	100.0%

Table 21.15 Boys Soccer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	50	54.9%
DO	12	13.2%
PA	5	5.5%
NP	8	8.8%
Medical examiner data not available*	16	17.6%
TOTAL	91	100.0%

Table 21.16 Boys Soccer Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	4	4.4%
Primary care physician or pediatrician's office	54	59.3%
Neurologist's office	7	7.7%
Team doctor	10	11.0%
Medical facility data not available*	16	17.6%
TOTAL	91	100.0%

Table 21.17 Boys Soccer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	66	72.5%
Conditions to return	9	9.9%
Return to activity data not available*	16	17.6%
TOTAL	91	100.0%

Table 21.18 Boys Soccer Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	50	54.9%
1-2 Days	12	13.2%
3-6 Days	12	13.2%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	1	1.1%
Missed school data not available*	16	17.6%
TOTAL	91	100.0%

Table 21.19 Boys Soccer Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	5	5.5%
3-5 Days	5	5.5%
6-10 Days	34	37.4%
11-15 Days	16	17.6%
16-20 Days	3	3.3%
≥21 Days	10	11.0%
Data not available**	18	19.8%
TOTAL	91	100.0%

5 Missing Follow-up Reports*

11 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

2 Data entry errors**

XXII. Girls Soccer Head Injury Reports

Table 22.1 Head Injury Prevalence Rate for Girls Soccer, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Soccer Participation	11,130
All Girls Soccer Head Injuries	203
Girls Soccer Head Injury Prevalence Rate (reported head injuries/total participants)	1.82%
Girls Soccer Head Injury Prevalence Rate Per Thousand Participants	18

Table 22.2 Girls Soccer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	157	77.3%
Junior Varsity	39	19.2%
Freshman	7	3.4%
TOTAL	203	100.0%

Table 22.3 Girls Soccer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	23	11.3%
Competition	180	88.7%
TOTAL	203	100.0%

Table 22.4 Girls Soccer Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	2	8.7%
Middle of practice	9	39.1%
End of practice	12	52.2%
PRACTICE TOTAL	23	100.0%
Start of competition	22	12.2%
Middle of competition	98	54.4%
End of competition	60	33.3%
COMPETITION TOTAL	180	100.0%

Table 22.5 Activity Type for Girls Soccer Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	17	73.9%
During simulated competition-scrimmage	6	26.1%
Not specified	0	0.0%
TOTAL	23	100.0%

Table 22.6 Girls Soccer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	65	32.0%
Person to object contact (e.g. wall, equipment)	86	42.4%
Person to playing surface contact	39	19.2%
Uncertain as to the cause of the event	13	6.4%
TOTAL	203	100.0%

Table 22.7 Person to Playing Surface Contact Girls Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Natural grass	20	51.3%
Artificial turf	19	48.7%
TOTAL	39	100.0%

Table 22.8 Girls Soccer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	115	56.7%
Coach	32	15.8%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	5	2.5%
DO	0	0.0%
MD	9	4.4%
PA	0	0.0%
NP	1	0.5%
Athletic director	3	1.5%
Multiple examiners	38	18.7%
TOTAL	203	100.0%

Table 22.9 Girls Soccer Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	165	81.3%
Not removed*	38	18.7%
TOTAL	203	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 22.10 Girls Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	49	24.1%
No reported previous concussions	154	75.9%
TOTAL	203	100.0%

Table 22.11 Most Recent Concussion for Girls Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	1	2.0%
Within one to six months	7	14.3%
Within six months to one year	5	10.2%
Over one year	36	73.5%
TOTAL	49	100.0%

Table 22.12 Number of Previous Concussions for Girls Soccer Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	37	75.5%
2 concussions	10	20.4%
3 concussions	0	0.0%
≥4 concussions	1	2.0%
Not specified	1	2.0%
TOTAL	49	100.0%

Table 22.13 Girls Soccer Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	147	72.4%
Did not receive written authorization to return by the end of season	32	15.8%
Follow-up Report not completed	24	11.8%
TOTAL	203	100.0%

Table 22.14 Girls Soccer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	84	41.4%
DO	30	14.8%
PA	10	4.9%
NP	23	11.3%
Medical examiner data not available*	56	27.6%
TOTAL	203	100.0%

Table 22.15 Girls Soccer Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	5	2.5%
Urgent or Ready Care business	19	9.4%
Primary care physician or pediatrician's office	99	48.8%
Neurologist's office	7	3.4%
Team doctor	17	8.4%
Medical facility data not available*	56	27.6%
TOTAL	203	100.0%

Table 22.16 Girls Soccer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	130	64.0%
Conditions to return	17	8.4%
Return to activity data not available*	56	27.6%
TOTAL	203	100.0%

Table 22.17 Girls Soccer Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	99	48.8%
1-2 Days	32	15.8%
3-6 Days	10	4.9%
7-9 Days	3	1.5%
10-20 Days	3	1.5%
≥21 Days	0	0.0%
Missed school data not available*	56	27.6%
TOTAL	203	100.0%

Table 22.18 Girls Soccer Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	5	2.5%
3-5 Days	11	5.4%
6-10 Days	60	29.6%
11-15 Days	41	20.2%
16-20 Days	13	6.4%
≥21 Days	13	6.4%
Data not available**	60	29.6%
TOTAL	203	100.0%

24 Missing Follow-up Reports*

32 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

4 Data entry errors**

XXIII. Softball Head Injury Reports

Table 23.1 Head Injury Prevalence Rate for Softball, MHSAA Head Injury Reporting System, 2020-21 School Year

Softball Participation	11,389
All Softball Head Injuries	60
Softball Head Injury Prevalence Rate	0.53%
Softball Head Injury Prevalence Rate Per Thousand Participants	5

Table 23.2 Softball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	40	66.7%
Junior Varsity	19	31.7%
Freshman	1	1.7%
TOTAL	60	100.0%

Table 23.3 Softball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	27	45.0%
Competition	33	55.0%
TOTAL	60	100.0%

Table 23.4 Softball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	2	7.4%
Middle of practice	15	55.6%
End of practice	10	37.0%
PRACTICE TOTAL	27	100.0%
Start of competition	4	12.1%
Middle of competition	19	57.6%
End of competition	10	30.3%
COMPETITION TOTAL	33	100.0%

Table 23.5 Activity Type for Softball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	22	81.5%
During simulated competition-scrimmage	3	11.1%
Not specified	2	7.4%
TOTAL	27	100.0%

Table 23.6 Softball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	11	18.3%
Person to object contact (e.g. wall, equipment)	40	66.7%
Person to playing surface contact	7	11.7%
Uncertain as to the cause of the event	2	3.3%
TOTAL	60	100.0%

Table 23.7 Person to Playing Surface Contact Softball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Natural grass	3	42.9%
Infield dirt	2	28.6%
Softball field	1	14.3%
Indoor tile type floor	1	14.3%
TOTAL	7	100.0%

Table 23.8 Softball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	26	43.3%
Coach	20	33.3%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	1.7%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	13	21.7%
TOTAL	60	100.0%

Table 23.9 Softball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	46	76.7%
Not removed*	14	23.3%
TOTAL	60	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 23.10 Softball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	9	15.0%
No reported previous concussions	51	85.0%
TOTAL	60	100.0%

Table 23.11 Most Recent Concussion for Softball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	1	11.1%
Within one to six months	0	0.0%
Within six months to one year	4	44.4%
Over one year	4	44.4%
TOTAL	9	100.0%

Table 23.12 Number of Previous Concussions for Softball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	5	55.6%
2 concussions	1	11.1%
3 concussions	2	22.2%
≥4 concussions	1	11.1%
Not specified	0	0.0%
TOTAL	9	100.0%

Table 23.13 Softball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	48	80.0%
Did not receive written authorization to return by the end of season	7	11.7%
Follow-up Report not completed	5	8.3%
TOTAL	60	100.0%

Table 23.14 Softball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	23	38.3%
DO	11	18.3%
PA	6	10.0%
NP	8	13.3%
Medical examiner data not available*	12	20.0%
TOTAL	60	100.0%

Table 23.15 Softball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	1.7%
Urgent or Ready Care business	8	13.3%
Primary care physician or pediatrician's office	27	45.0%
Neurologist's office	6	10.0%
Team doctor	6	10.0%
Medical facility data not available*	12	20.0%
TOTAL	60	100.0%

Table 23.16 Softball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	44	73.3%
Conditions to return	4	6.7%
Return to activity data not available*	12	20.0%
TOTAL	60	100.0%

Table 23.17 Softball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	34	56.7%
1-2 Days	10	16.7%
3-6 Days	1	1.7%
7-9 Days	3	5.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	12	20.0%
TOTAL	60	100.0%

Table 23.18 Softball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	2	3.3%
6-10 Days	22	36.7%
11-15 Days	10	16.7%
16-20 Days	7	11.7%
≥21 Days	6	10.0%
Data not available**	13	21.7%
TOTAL	60	100.0%

5 Missing Follow-up Reports*

7 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

1 Data entry errors**

XXIV. Boys Swimming & Diving Head Injury Reports

Table 24.1 Head Injury Prevalence Rate for Boys Swimming & Diving, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Swimming & Diving Participation	4,107
All Reported Boys Swimming & Diving Head Injuries	2
Boys Swimming & Diving Head Injury Prevalence Rate (reported head injuries/total participants)	0.05%
Boys Swimming & Diving Head Injury Prevalence Rate Per Thousand Participants	0

Table 24.2 Boys Swimming & Diving Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	2	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	2	100.0%

Table 24.3 Boys Swimming & Diving Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	1	50.0%
Competition	1	50.0%
TOTAL	2	100.0%

Table 24.4 Boys Swimming & Diving Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	1	100.0%
End of practice	0	0.0%
PRACTICE TOTAL	1	100.0%
Start of competition	1	100.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	1	100.0%

Table 24.5 Activity Type for Boys Swimming & Diving Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	1	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 24.6 Boys Swimming & Diving Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	1	50.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	1	50.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	2	100.0%

Table 24.7 Person to Playing Surface Contact Boys Swimming & Diving Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Water	1	100.0%
TOTAL	1	100.0%

Table 24.8 Boys Swimming & Diving Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	50.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	50.0%
TOTAL	2	100.0%

Table 24.9 Boys Swimming & Diving Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	1	50.0%
Not removed*	1	50.0%
TOTAL	2	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 24.10 Boys Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	2	100.0%
TOTAL	2	100.0%

Table 24.11 Most Recent Concussion for Boys Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	10.0%
TOTAL	0	0.0%

Table 24.12 Number of Previous Concussions for Boys Swimming & Diving Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 24.13 Boys Swimming & Diving Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	2	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	2	100.0%

Table 24.14 Boys Swimming & Diving Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	2	100.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	2	100.0%

Table 24.15 Boys Swimming & Diving Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	1	50.0%
Neurologist's office	0	0.0%
Team doctor	1	50.0%
Medical facility data not available*	0	0.0%
TOTAL	2	100.0%

Table 24.16 Boys Swimming & Diving Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	2	100.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	2	100.0%

Table 24.17 Boys Swimming & Diving Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	0	0.0%
1-2 Days	1	50.0%
3-6 Days	1	50.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	2	100.0%

Table 24.18 Boys Swimming & Diving Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	50.0%
11-15 Days	0	0.0%
16-20 Days	1	50.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	2	100.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXV. Girls Swimming & Diving Head Injury Reports

Table 25.1 Head Injury Prevalence Rate for Girls Swimming & Diving, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Swimming & Diving Participation	5,111
All Reported Girls Swimming & Diving Head Injuries	15
Girls Swimming & Diving Head Injury Prevalence Rate (reported head injuries/total participants)	0.29%
Girls Swimming & Diving Head Injury Prevalence Rate Per Thousand Participants	3

Table 25.2 Girls Swimming & Diving Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	13	86.7%
Junior Varsity	1	6.7%
Freshman	1	6.7%
TOTAL	15	100.0%

Table 25.3 Girls Swimming & Diving Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	10	66.7%
Competition	5	33.3%
TOTAL	15	100.0%

Table 25.4 Girls Swimming & Diving Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	2	13.3%
Middle of practice	7	46.7%
End of practice	1	6.7%
PRACTICE TOTAL	10	66.7%
Start of competition	2	40.0%
Middle of competition	2	40.0%
End of competition	1	20.0%
COMPETITION TOTAL	5	100.0%

Table 25.5 Activity Type for Girls Swimming & Diving Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	10	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	10	100.0%

Table 25.6 Girls Swimming & Diving Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	1	6.7%
Person to object contact (e.g. wall, equipment)	6	40.0%
Person to playing surface contact	5	33.3%
Uncertain as to the cause of the event	3	20.0%
TOTAL	15	100.0%

Table 25.7 Person to Playing Surface Contact Girls Swimming & Diving Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Water	3	60.0%
Concrete	2	40.0%
TOTAL	5	40.0%

Table 25.8 Girls Swimming & Diving Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	7	46.7%
Coach	6	40.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	2	13.3%
TOTAL	15	100.0%

Table 25.9 Girls Swimming & Diving Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	11	73.3%
Not removed*	4	26.7%
TOTAL	15	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 25.10 Girls Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	2	13.3%
No reported previous concussions	13	86.7%
TOTAL	15	100.0%

Table 25.11 Most Recent Concussion for Girls Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	2	100.0%
TOTAL	2	100.0%

Table 25.12 Number of Previous Concussions for Girls Swimming & Diving Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	2	100.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	2	100.0%

Table 25.13 Girls Swimming & Diving Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	10	66.7%
Did not receive written authorization to return by the end of season	5	33.3%
Follow-up Report not completed	0	0.0%
TOTAL	15	100.0%

Table 25.14 Girls Swimming & Diving Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	4	26.7%
DO	4	26.7%
PA	2	13.3%
NP	0	0.0%
Medical examiner data not available*	5	33.3%
TOTAL	15	100.0%

Table 25.15 Girls Swimming & Diving Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	9	60.0%
Neurologist's office	0	0.0%
Team doctor	1	6.7%
Medical facility data not available*	5	33.3%
TOTAL	15	100.0%

Table 25.16 Girls Swimming & Diving Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	10	66.7%
Conditions to return	0	0.0%
Return to activity data not available*	5	33.3%
TOTAL	15	100.0%

Table 25.17 Girls Swimming & Diving Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	9	60.0%
1-2 Days	1	6.7%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	5	33.3%
TOTAL	15	100.0%

Table 25.18 Girls Swimming & Diving Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	5	33.3%
11-15 Days	3	20.0%
16-20 Days	0	0.0%
≥21 Days	2	13.3%
Data not available**	5	33.3%
TOTAL	15	100.0%

0 Missing Follow-up Reports*

5 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXVI. Boys Tennis Head Injury Reports

Table 26.1 Head Injury Prevalence Rate for Boys Tennis, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Tennis Participation	5,904
All Reported Boys Tennis Head Injuries	0
Boys Tennis Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Boys Tennis Head Injury Prevalence Rate Per Thousand Participants	0

Table 26.2 Boys Tennis Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 26.3 Boys Tennis Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%

Table 26.4 Boys Tennis Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 26.5 Activity Type for Boys Tennis Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 26.6 Boys Tennis Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 26.7 Person to Playing Surface Contact Boys Tennis Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Tennis court	0	0.0%
TOTAL	0	0.0%

Table 26.8 Boys Tennis Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 26.9 Boys Tennis Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 26.10 Boys Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 26.11 Most Recent Concussion for Boys Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 26.12 Number of Previous Concussions for Boys Tennis Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 26.13 Boys Tennis Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 26.14 Boys Tennis Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 26.15 Boys Tennis Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 26.16 Boys Tennis Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 26.17 Boys Tennis Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 26.18 Boys Tennis Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXVII. Girls Tennis Head Injury Reports

Table 27.1 Head Injury Prevalence Rate for Girls Tennis, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Tennis Participation	7,125
All Girls Tennis Head Injuries	4
Girls Tennis Head Injury Prevalence Rate	0.06%
Girls Tennis Head Injury Prevalence Rate Per Thousand Participants	1

Table 27.2 Girls Tennis Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	4	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 27.3 Girls Tennis Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	2	50.0%
Competition	2	50.0%
TOTAL	4	100.0%

Table 27.4 Girls Tennis Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	2	100.0%
PRACTICE TOTAL	2	100.0%
Start of competition	0	0.0%
Middle of competition	2	100.0%
End of competition	0	0.0%
COMPETITION TOTAL	2	100.0%

Table 27.5 Activity Type for Girls Tennis Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	1	50.0%
During simulated competition-scrimmage	1	50.0%
Not specified	0	0.0%
TOTAL	2	100.0%

Table 27.6 Girls Tennis Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	4	100.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	4	100.0%

Table 27.7 Person to Playing Surface Contact Girls Tennis Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Tennis court	0	0.0%
TOTAL	0	0.0%

Table 27.8 Girls Tennis Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	1	25.0%
Coach	2	50.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	25.0%
TOTAL	4	100.0%

Table 27.9 Girls Tennis Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	3	75.0%
Not removed*	1	25.0%
TOTAL	4	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 27.10 Girls Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	1	25.0%
No reported previous concussions	3	75.0%
TOTAL	4	100.0%

Table 27.11 Most Recent Concussion for Girls Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	1	100.0%
TOTAL	1	100.0%

Table 27.12 Number of Previous Concussions for Girls Tennis Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	1	100.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 27.13 Girls Tennis Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	2	50.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	2	50.0%
TOTAL	4	100.0%

Table 27.14 Girls Tennis Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	1	25.0%
DO	0	0.0%
PA	0	0.0%
NP	1	25.0%
Medical examiner data not available*	2	50.0%
TOTAL	4	100.0%

Table 27.15 Girls Tennis Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	1	25.0%
Neurologist's office	1	25.0%
Team doctor	0	0.0%
Medical facility data not available*	2	50.0%
TOTAL	4	100.0%

Table 27.16 Girls Tennis Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	2	50.0%
Conditions to return	0	0.0%
Return to activity data not available*	2	50.0%
TOTAL	4	100.0%

Table 27.17 Girls Tennis Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	2	50.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	2	50.0%
TOTAL	4	100.0%

Table 27.18 Girls Tennis Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	25.0%
11-15 Days	1	25.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	2	50.0%
TOTAL	4	100.0%

2 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

**XXVIII. Boys Track & Field
Head Injury Reports**

Table 28.1 Head Injury Prevalence Rate for Boys Track & Field, MHSAA Head Injury Reporting System, 2020-21 School Year

Boys Track and Field Participation	17,390
All Boys Track and Field Head Injuries	4
Boys Track and Field Head Injury Prevalence Rate (reported head injuries/total participants)	0.02%
Boys Track and Field Head Injury Prevalence Rate Per Thousand Participants	0

Table 28.2 Boys Track & Field Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	4	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 28.3 Boys Track & Field Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	2	50.0%
Competition	2	50.0%
TOTAL	4	100.0%

Table 28.4 Boys Track & Field Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	2	100.0%
PRACTICE TOTAL	2	100.0%
Start of competition	1	50.0%
Middle of competition	1	50.0%
End of competition	0	0.0%
COMPETITION TOTAL	2	100.0%

Table 28.5 Activity Type for Boys Track & Field Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	1	50.0%
Not specified	1	50.0%
TOTAL	2	100.0%

Table 28.6 Boys Track & Field Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	1	25.0%
Person to playing surface contact	2	50.0%
Uncertain as to the cause of the event	1	25.0%
TOTAL	4	100.0%

Table 28.7 Person to Playing Surface Contact Boys Track & Field Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Track	1	50.0%
Concrete	1	50.0%
TOTAL	2	100.0%

Table 28.8 Boys Track & Field Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	1	25.0%
Coach	1	25.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	25.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	25.0%
TOTAL	4	100.0%

Table 28.9 Boys Track & Field Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	3	75.0%
Not removed*	1	25.0%
TOTAL	4	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 28.10 Boys Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	4	100.0%
TOTAL	4	100.0%

Table 28.11 Most Recent Concussion for Boys Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 28.12 Number of Previous Concussions for Boys Track & Field Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 28.13 Boys Track & Field Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	2	50.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	2	50.0%
TOTAL	4	100.0%

Table 28.14 Boys Track & Field Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	1	25.0%
DO	0	0.0%
PA	0	0.0%
NP	1	25.0%
Medical examiner data not available*	2	50.0%
TOTAL	4	100.0%

Table 28.15 Boys Track & Field Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	2	50.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	2	50.0%
TOTAL	4	100.0%

Table 28.16 Boys Track & Field Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	2	50.0%
Conditions to return	0	0.0%
Return to activity data not available*	2	50.0%
TOTAL	4	100.0%

Table 28.17 Boys Track & Field Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	1	25.0%
1-2 Days	1	25.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	2	50.0%
TOTAL	4	100.0%

Table 28.18 Boys Track & Field Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	2	50.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	2	50.0%
TOTAL	4	100.0%

2 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

**XXIX. Girls Track & Field
Head Injury Reports**

Table 29.1 Head Injury Prevalence Rate for Girls Track & Field, MHSAA Head Injury Reporting System, 2020-21 School Year

Girls Track and Field Participation	12,739
All Girls Track and Field Head Injuries	10
Girls Track and Field Head Injury Prevalence Rate (reported head injuries/total participants)	0.08%
Girls Track and Field Head Injury Prevalence Rate Per Thousand Participants	1

Table 29.2 Girls Track & Field Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	9	90.0%
Junior Varsity	1	10.0%
Freshman	0	0.0%
TOTAL	10	100.0%

Table 29.3 Girls Track & Field Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	4	40.0%
Competition	6	60.0%
TOTAL	10	100.0%

Table 29.4 Girls Track & Field Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	1	25.0%
Middle of practice	2	50.0%
End of practice	1	25.0%
PRACTICE TOTAL	4	100.0%
Start of competition	1	16.7%
Middle of competition	5	83.3%
End of competition	0	0.0%
COMPETITION TOTAL	6	100.0%

Table 29.5 Activity Type for Girls Track & Field Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	3	75.0%
During simulated competition-scrimmage	0	0.0%
Not specified	1	25.0%
TOTAL	4	100.0%

Table 29.6 Girls Track & Field Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	1	10.0%
Person to object contact (e.g. wall, equipment)	5	50.0%
Person to playing surface contact	2	20.0%
Uncertain as to the cause of the event	2	20.0%
TOTAL	10	100.0%

Table 29.7 Person to Playing Surface Contact Girls Track & Field Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Track	2	100.0%
TOTAL	2	100.0%

Table 29.8 Girls Track & Field Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	6	60.0%
Coach	1	10.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	10.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	2	20.0%
TOTAL	10	100.0%

Table 29.9 Girls Track & Field Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	9	90.0%
Not removed*	1	10.0%
TOTAL	10	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 29.10 Girls Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	1	10.0%
No reported previous concussions	9	90.0%
TOTAL	10	100.0%

Table 29.11 Most Recent Concussion for Girls Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	1	100.0%
TOTAL	1	100.0%

Table 29.12 Number of Previous Concussions for Girls Track & Field Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	0	0.0%
2 concussions	1	100.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 29.13 Girls Track & Field Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	8	80.0%
Did not receive written authorization to return by the end of season	1	10.0%
Follow-up Report not completed	1	10.0%
TOTAL	10	100.0%

Table 29.14 Girls Track & Field Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	4	40.0%
DO	3	30.0%
PA	0	0.0%
NP	1	10.0%
Medical examiner data not available*	2	20.0%
TOTAL	10	100.0%

Table 29.15 Girls Track & Field Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	5	50.0%
Neurologist's office	1	10.0%
Team doctor	2	20.0%
Medical facility data not available*	2	20.0%
TOTAL	10	100.0%

Table 29.16 Girls Track & Field Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	7	70.0%
Conditions to return	1	10.0%
Return to activity data not available*	2	20.0%
TOTAL	10	100.0%

Table 29.17 Girls Track & Field Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	6	60.0%
1-2 Days	0	0.0%
3-6 Days	2	20.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	2	20.0%
TOTAL	10	100.0%

Table 29.18 Girls Track & Field Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	2	20.0%
6-10 Days	1	10.0%
11-15 Days	1	10.0%
16-20 Days	3	30.0%
≥21 Days	1	10.0%
Data not available**	2	20.0%
TOTAL	10	100.0%

1 Missing Follow-up Reports*

1 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXX. Volleyball Head Injury Reports

Table 30.1 Head Injury Prevalence Rate for Volleyball, MHSAA Head Injury Reporting System, 2020-21 School Year

Volleyball Participation	18,430
All Reported Volleyball Head Injuries	86
Volleyball Head Injury Prevalence Rate (reported head injuries/total participants)	0.47%
Volleyball Head Injury Prevalence Rate Per Thousand Participants	5

Table 30.2 Volleyball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	48	55.8%
Junior Varsity	23	26.7%
Freshman	15	17.4%
TOTAL	86	100.0%

Table 30.3 Volleyball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	38	44.2%
Competition	48	55.8%
TOTAL	86	100.0%

Table 30.4 Volleyball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	5	13.2%
Middle of practice	17	44.7%
End of practice	16	42.1%
PRACTICE TOTAL	38	100.0%
Start of competition	5	10.4%
Middle of competition	31	64.6%
End of competition	12	25.0%
COMPETITION TOTAL	48	100.0%

Table 30.5 Activity Type for Volleyball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	28	73.7%
During simulated competition-scrimmage	8	21.1%
Not specified	2	5.3%
TOTAL	38	100.0%

Table 30.6 Volleyball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	15	17.4%
Person to object contact (e.g. wall, equipment)	48	55.8%
Person to playing surface contact	19	22.1%
Uncertain as to the cause of the event	4	4.7%
TOTAL	86	100.0%

Table 30.7 Person to Playing Surface Contact Volleyball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Wooded gym floor	18	94.7%
Artificial Turf	1	5.3%
TOTAL	19	100.0%

Table 30.8 Volleyball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	39	45.3%
Coach	28	32.6%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	1	1.2%
DO	0	0.0%
MD	4	4.7%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	14	16.3%
TOTAL	86	100.0%

Table 30.9 Volleyball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	64	74.4%
Not removed*	22	25.6%
TOTAL	86	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 30.10 Volleyball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	16	18.6%
No reported previous concussions	70	81.4%
TOTAL	86	100.0%

Table 30.11 Most Recent Concussion for Volleyball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	2	12.5%
Within one to six months	1	6.3%
Within six months to one year	3	18.8%
Over one year	10	62.5%
TOTAL	16	100.0%

Table 30.12 Number of Previous Concussions for Volleyball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	13	81.3%
2 concussions	1	6.3%
3 concussions	2	12.5%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	16	100.0%

Table 30.13 Volleyball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	65	75.6%
Did not receive written authorization to return by the end of season	14	16.3%
Follow-up Report not completed	7	8.1%
TOTAL	86	100.0%

Table 30.14 Volleyball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	33	38.4%
DO	12	14.0%
PA	10	11.6%
NP	10	11.6%
Medical examiner data not available*	21	24.4%
TOTAL	86	100.0%

Table 30.15 Volleyball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	1.2%
Urgent or Ready Care business	1	1.2%
Primary care physician or pediatrician's office	49	57.0%
Neurologist's office	1	1.2%
Team doctor	13	15.1%
Medical facility data not available*	21	24.4%
TOTAL	86	100.0%

Table 30.16 Volleyball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	59	68.6%
Conditions to return	6	7.0%
Return to activity data not available*	21	24.4%
TOTAL	86	100.0%

Table 30.17 Volleyball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	41	47.7%
1-2 Days	16	18.6%
3-6 Days	7	8.1%
7-9 Days	0	0.0%
10-20 Days	1	1.2%
≥21 Days	0	0.0%
Missed school data not available*	21	24.4%
TOTAL	86	100.0%

Table 30.18 Volleyball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	1	1.2%
3-5 Days	3	3.5%
6-10 Days	19	22.1%
11-15 Days	23	26.7%
16-20 Days	6	7.0%
≥21 Days	11	12.8%
Data not available**	23	26.7%
TOTAL	86	100.0%

7 Missing Follow-up Reports*

14 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

2 Data entry errors**

XXXI. Wrestling Head Injury Reports

Table 31.1 Head Injury Prevalence Rate for Wrestling, MHSAA Head Injury Reporting System, 2020-21 School Year

Wrestling Participation	7,579
All Reported Wrestling Head Injuries	72
Wrestling Head Injury Prevalence Rate (reported head injuries/total participants)	0.95%
Wrestling Head Injury Prevalence Rate Per Thousand Participants	9

Table 31.2 Wrestling Head Injuries by Gender, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Male	64	88.9%
Female	8	11.1%
TOTAL	72	100.0%

Table 31.3 Wrestling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Varsity	62	86.1%
Junior Varsity	9	12.5%
Freshman	1	1.4%
TOTAL	72	100.0%

Table 31.4 Wrestling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Practice	29	40.3%
Competition	43	59.7%
TOTAL	72	100.0%

Table 31.5 Wrestling Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Start of practice	2	6.9%
Middle of practice	15	51.7%
End of practice	12	41.4%
PRACTICE TOTAL	29	100.0%
Start of competition	3	7.0%
Middle of competition	26	60.5%
End of competition	14	32.6%
COMPETITION TOTAL	43	100.0%

Table 31.6 Activity Type for Wrestling Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
During a drill	19	65.5%
During simulated competition-scrimmage	9	31.0%
Not specified	1	3.4%
TOTAL	29	100.0%

Table 31.7 Wrestling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Person to person contact	26	36.1%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	39	54.2%
Uncertain as to the cause of the event	7	9.7%
TOTAL	72	100.0%

Table 31.8 Person to Playing Surface Contact Wrestling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Wrestling-type mat	38	97.4%
Wooden gym floor	1	2.6%
TOTAL	39	100.0%

Table 31.9 Wrestling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Athletic trainer	40	55.6%
Coach	14	19.4%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	1	1.4%
DO	0	0.0%
MD	1	1.4%
PA	0	0.0%
NP	0	0.0%
Athletic director	1	1.4%
Multiple examiners	15	20.8%
TOTAL	72	100.0%

Table 31.10 Wrestling Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Removed	58	80.6%
Not removed*	14	19.4%
TOTAL	72	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 31.11 Wrestling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Reported at least one previous concussion	11	15.3%
No reported previous concussions	61	84.7%
TOTAL	72	100.0%

Table 31.12 Most Recent Concussion for Wrestling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	1	9.1%
Over one year	10	90.9%
TOTAL	11	100.0%

Table 31.13 Number of Previous Concussions for Wrestling Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1 concussion	9	81.8%
2 concussions	2	18.2%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	11	100.0%

Table 31.14 Wrestling Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Received written authorization to return by the end of season	51	70.8%
Did not receive written authorization to return by the end of season	18	25.0%
Follow-up Report not completed	3	4.2%
TOTAL	72	100.0%

Table 31.15 Wrestling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
MD	27	37.5%
DO	14	19.4%
PA	4	5.6%
NP	6	8.3%
Medical examiner data not available*	21	29.2%
TOTAL	72	100.0%

Table 31.16 Wrestling Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Hospital	1	1.4%
Urgent or Ready Care business	4	5.6%
Primary care physician or pediatrician's office	36	50.0%
Neurologist's office	3	4.2%
Team doctor	7	9.7%
Medical facility data not available*	21	29.2%
TOTAL	72	100.0%

Table 31.17 Wrestling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
Unconditional return	42	58.3%
Conditions to return	9	12.5%
Return to activity data not available*	21	29.2%
TOTAL	72	100.0%

Table 31.18 Wrestling Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
0 Days	27	37.5%
1-2 Days	13	18.1%
3-6 Days	9	12.5%
7-9 Days	0	0.0%
10-20 Days	2	2.8%
≥21 Days	0	0.0%
Missed school data not available*	21	29.2%
TOTAL	72	100.0%

Table 31.19 Wrestling Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2020-21 School Year

	n	%
1-2 Days	1	1.4%
3-5 Days	4	5.6%
6-10 Days	20	27.8%
11-15 Days	13	18.1%
16-20 Days	9	12.5%
≥21 Days	4	5.6%
Data not available**	21	29.2%
TOTAL	72	100.0%

3 Missing Follow-up Reports*

18 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXXII. Six Year Comparison

Table 32.1 Head Injury Reports by Sport and Year, MHSAA Head Injury Reporting System, 2020-21 School Year

Year Over Year Head Injury Reports

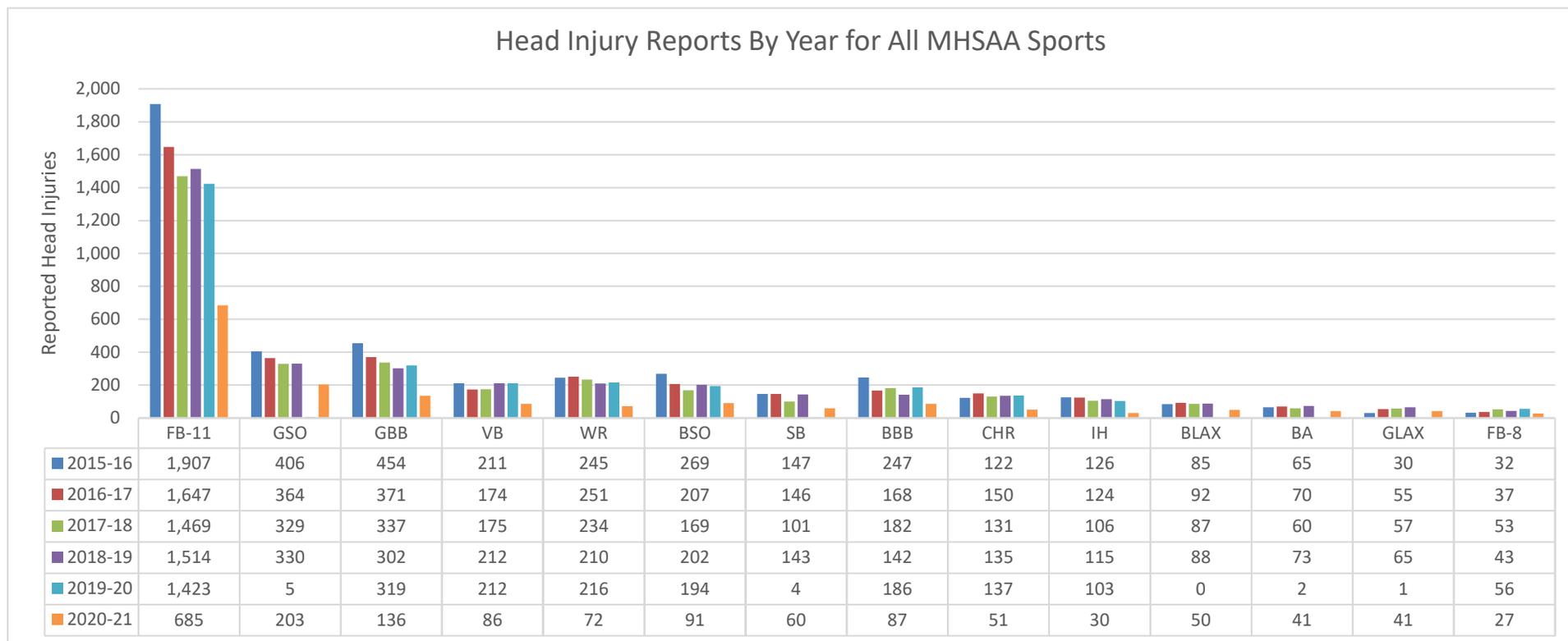
SPORTS	Boys*						Girls					
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Baseball	65	70	60	73	2	41	-	-	-	-	-	-
Basketball	247	168	182	142	186	87	454	371	337	302	319	136
Bowling	1	0	0	1	0	0	0	0	0	0	0	0
Competitive Cheer	-	-	-	-	-	-	122	150	131	135	137	51
Cross Country	4	1	1	3	4	1	4	6	3	7	2	1
Football - 11-Player	1,907	1,647	1,469	1,514	1,423	685	-	-	-	-	-	-
8-Player	32	37	53	43	56	27	-	-	-	-	-	-
Golf	1	1	0	2	0	0	2	1	0	0	2	0
Gymnastics	-	-	-	-	-	-	8	8	11	7	7	3
Ice Hockey	126	124	106	115	103	30	-	-	-	-	-	-
Lacrosse	85	92	87	88	0	50	30	55	57	65	1	41
Skiing-Alpine	3	3	5	5	4	2	6	2	1	2	12	3
Soccer	269	207	169	202	194	91	406	364	329	330	5	203
Softball	-	-	-	-	21	-	147	146	101	143	4	60
Swimming & Diving	14	11	14	19	1	2	31	33	25	26	39	15
Tennis	0	4	3	2	1	0	6	6	7	8	0	4
Track & Field	4	11	9	10	1	4	22	15	11	20	0	10
Volleyball	-	-	-	-	-	-	211	174	175	212	212	86
Wrestling	245	251	234	210	216	72	-	-	-	-	-	-

*Boys head injury data includes both males AND females playing on primarily male teams

Winter sports still in tournament play when activity was stopped due to the COVID-19 pandemic during the 2020-21 school year

Spring sports that had begun practice but not competition when activity was stopped due to the COVID-19 pandemic during the 2020-21 school year

Figure 32.1 Head Injury Reports by Sport and Year – Higher Incidence Sports, MHSAA Head Injury Reporting System, 2020-21 School Year



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

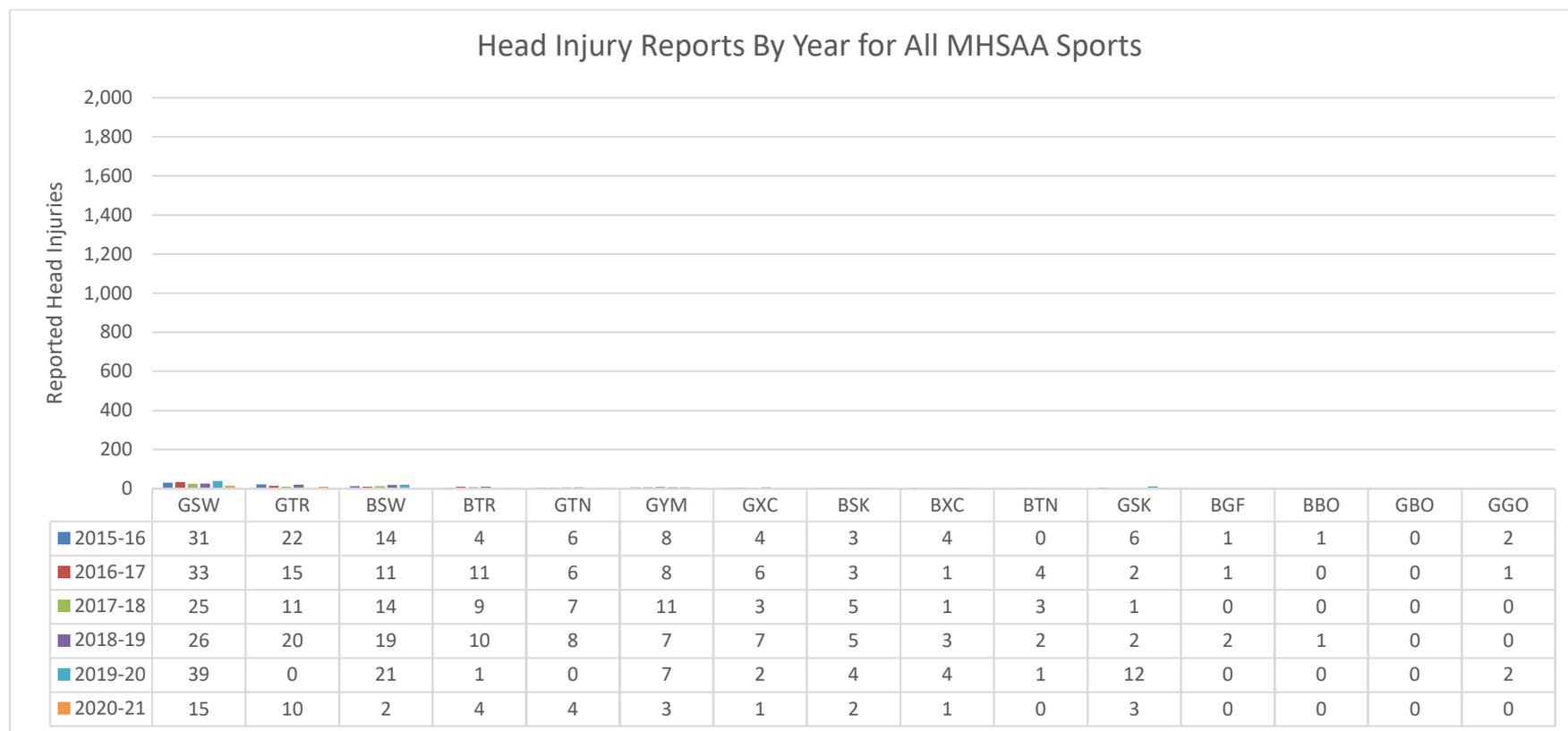
Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
 Ice Hockey – IH
 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling - WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis - GTN

Figure 32.2 Head Injury Reports by Sport and Year – Lower Incidence Sports, MHSAA Head Injury Reporting System, 2020-21 School Year



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
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 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling - WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis - GTN

Table 32.2 Head Injury Reports per 1,000 Participants by Sport and Year, MHSAA Head Injury Reporting System, 2020-21 School Year

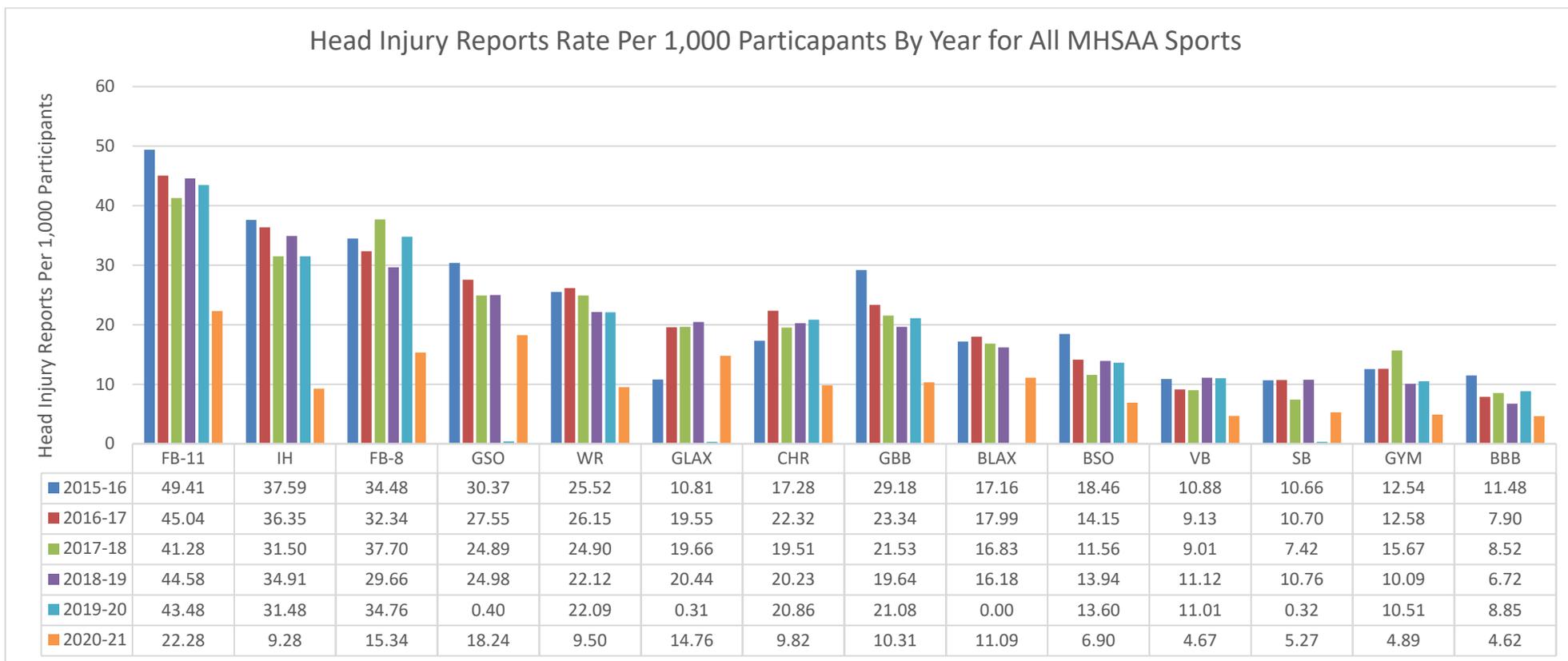
SPORTS	Boys*						Girls					
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Baseball	3.58	3.89	3.39	4.24	0.12	2.55	-	-	-	-	-	-
Basketball	11.48	7.90	8.52	6.72	8.85	4.62	29.18	23.34	21.53	19.64	21.08	10.31
Bowling	0.26	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Competitive Cheer	-	-	-	-	-	-	17.28	22.32	19.51	20.23	20.86	9.82
Cross Country	0.43	0.11	0.10	0.31	0.42	0.12	0.48	0.71	0.34	0.86	0.25	0.14
Football - 11-Player	49.41	45.04	41.28	44.58	43.48	22.28	-	-	-	-	-	-
8-Player	34.48	32.34	37.70	29.66	34.76	15.34	-	-	-	-	-	-
Golf	0.16	0.16	0.00	0.32	0.00	0.00	0.58	0.28	0.00	0.00	0.55	0.00
Gymnastics	-	-	-	-	-	-	12.54	12.58	15.67	10.09	10.51	4.89
Ice Hockey	37.59	36.35	31.50	34.91	31.48	9.28	-	-	-	-	-	-
Lacrosse	17.16	17.99	16.83	16.18	0.00	11.09	10.81	19.55	19.66	20.44	0.31	14.76
Skiing-Alpine	4.17	3.58	6.02	5.41	4.35	2.44	9.20	2.68	1.30	2.62	15.27	3.86
Soccer	18.46	14.15	11.56	13.94	13.60	6.90	30.37	27.55	24.89	24.98	0.40	18.24
Softball	-	-	-	-	-	-	10.66	10.70	7.42	10.76	0.32	5.27
Swimming & Diving	2.96	2.21	2.75	3.80	4.15	0.49	5.76	5.89	4.36	4.49	7.12	2.93
Tennis	0.00	0.66	0.49	0.32	0.16	0.00	0.69	0.67	0.77	0.86	0.00	0.56
Track & Field	0.18	0.47	0.38	0.42	0.05	0.23	1.32	0.88	0.64	1.15	0.00	0.78
Volleyball	-	-	-	-	-	-	10.88	9.13	9.01	11.12	11.01	4.67
Wrestling	25.52	26.15	24.90	22.12	22.09	9.50	-	-	-	-	-	-

*Boys head injury data includes both males AND females playing on primarily male teams

Winter sports still in tournament play when activity was stopped due to the COVID-19 pandemic during the 2020-21 school year

Spring sports that had begun practice but not competition when activity was stopped due to the COVID-19 pandemic during the 2020-21 school year

Figure 32.3 Head Injury Reports per 1,000 Participants by Sport and Year – Higher Incidence Sports, MHSAA Head Injury Reporting System, 2020-21 School Year



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

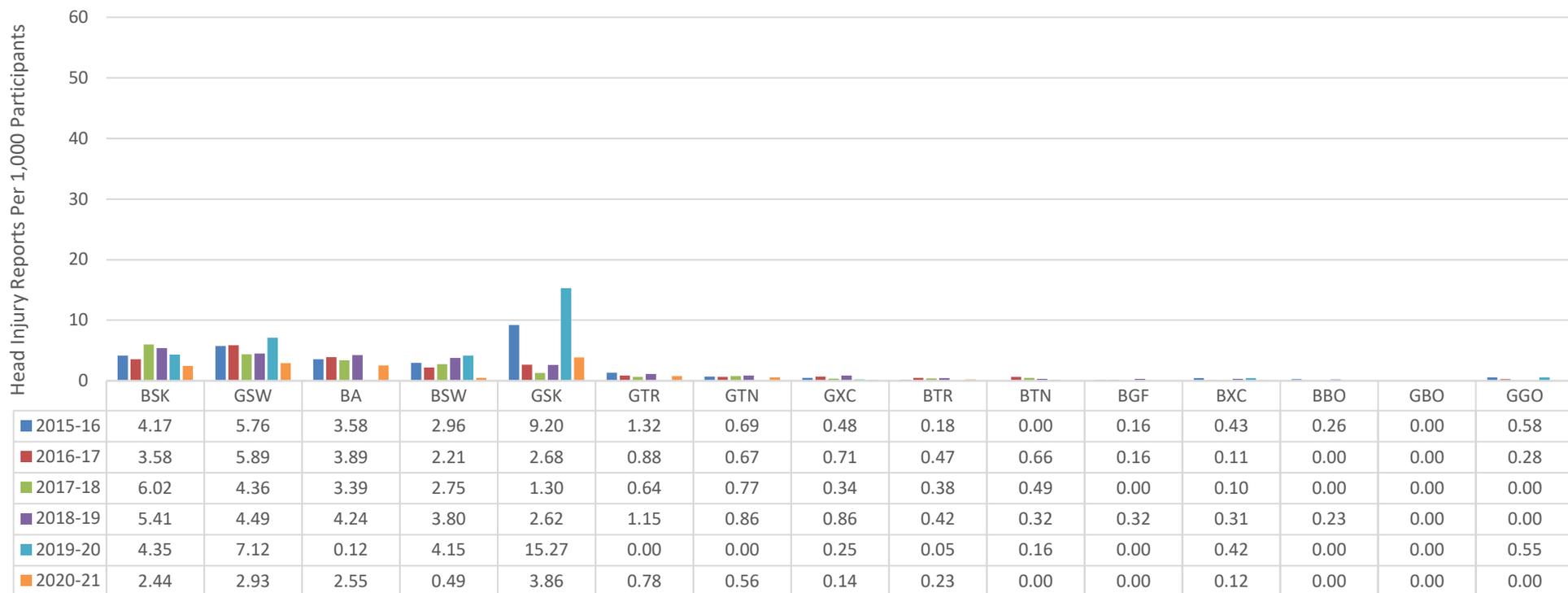
Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
 Ice Hockey – IH
 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling - WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis - GTN

Figure 32.4 Head Injury Reports per 1,000 Participants by Sport and Year – Lower Incidence Sports, MHSAA Head Injury Reporting System, 2020-21 School Year

Head Injury Reports Rate Per 1,000 Participants By Year for All MHSAA Sports



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
 Ice Hockey – IH
 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling - WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis - GTN

XXXIII. Executive Summary

33.1 Introduction

In May of 2015, the Representative Council of the Michigan High School Athletic Association approved two long-term additions to the history of efforts by MHSAA's member schools to promote and protect participant health.

- Concussion care “gap” insurance was provided by the MHSAA without cost to member schools or students’ families, covering practices and competition for all levels of all MHSAA sports, 7th through 12th grades. The coverage was extended to 6th-graders in 2016-17. That coverage continued in 2017-18, 2018-19, 2019-20, and 2020-21 school years and will continue in 2021-22.
- Concussion reporting was required for all MHSAA member high schools for all head injury events taking place during in season practices and competition in all levels of all MHSAA sports. That requirement continues.

The purpose of the mandated concussion reporting is not to identify areas of the state or individual schools or teams that are above or below average in terms of the number of concussions reported. The intended purpose is to help identify the significant broad themes and questions that might be researched to help point school-sponsored sports leadership toward policies and procedures that will tend to improve the experience of students in interscholastic athletic programs of Michigan and beyond.

This Executive Summary is based on confirmed Head Injury Reports submitted for MHSAA supported sports sponsored and conducted at the MHSAA's member high schools during the 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, and 2020-21 school years.

33.2 Ranking

SPORT	PARTICIPANTS	HEAD INJURY REPORTS	HEAD INJURY REPORTS PER THOUSAND PARTICIPANTS	HEAD INJURIES PER THOUSAND PARTICIPANTS RATE RANK OUT OF ALL MHSAA SPORTS
Football - 11 player	30,745	685	22	1
Girls Soccer	11,130	203	18	2
Football 8-player	1,760	27	15	3
Girls Lacrosse	2,777	41	15	4
Boys Lacrosse	4,510	50	11	5
Girls Basketball	13,185	136	10	6
Competitive Cheer	5,191	51	10	7
Wrestling	7,579	72	9	8
Ice Hockey	3234	30	9	9
Boys Soccer	13,189	91	7	10
Softball	11,389	60	5	11
Gymnastics	613	3	5	12
Volleyball	18,430	86	5	13
Boys Basketball	18,821	87	5	14
Girls Skiing	778	3	4	15
Girls Swimming & Diving	5,111	15	3	16
Baseball	16,053	41	3	17
Boys Skiing	818	2	2	18
Girls Track & Field	12,739	10	1	19
Girls Tennis	7,125	4	1	20
Boys Swimming & Diving	4,107	2	0	21
Boys Track & Field	17,390	4	0	22
Girls Cross Country	7,248	1	0	23
Boys Cross Country	8,388	1	0	24
Boys Bowling	3,516	0	0	25
Boys Golf	6,183	0	0	25
Boys Tennis	5,904	0	0	25
Girls Bowling	2,414	0	0	25
Girls Golf	3,585	0	0	25

33.3 Observations of Year #6 (2020-21)

- During the 2020-21 school year, 1,933 suspected concussion reports were entered by MHSAA member schools into the Head Injury Reporting System:
 - 4 duplicate reports were entered and subsequently deleted
 - 1 report was not included because of obvious entry error
 - 60 reports were for injury events that either took place out of season or in a non-MHSAA event (sideline cheerleading, club sport, gym class, car accident, etc.)
 - 130 reported head injuries were not diagnosed as concussions and not included in the 2020-21 Summary Report
 - 29 reports were middle school athletes participating in middle school athletic events – because middle school reporting is voluntary and remains low, middle school data was not included in the 2020-21 Summary Report

With the above deletions and exclusions, **1,709** head injury reports were included in the 2020-21 Summary Report.

- 1,709 total head injury reports is down 42.1% from the 2,951 reports for the 2019-20 school year.

Several factors related to the COVID-19 pandemic likely contributed to this overall decrease in reported head injuries:

1. Epidemic orders from the Michigan Governor and Michigan State Department of Health and Human Services (MDHHS) significantly altered normal practice and competition schedules in all sports across all three seasons, particularly contact sports and sports played indoors during the Fall and Winter.
 - In the Fall, Executive pandemic orders from the Governor restricted physical contact and use of indoor facilities, delaying the start of normal practices and competition in the majority of the state for approximately three weeks, and consequently forcing the season to be shortened in four sports: football, boys soccer, girls lower peninsula swimming and diving, and volleyball.
 - Pandemic orders from the MDHHS restricting physical contact and use of indoor facilities prohibited the start of practice and

competition in all Winter sports with the exception of boys and girls alpine skiing, which saw no alterations to schedule. Whereas the majority of Winter sports would start in mid-November in a typical year, some starting as early as late October, it was not until February 1st that use of indoor facilities and contact practice and competition were allowed to start during the 2020-21 school year. This significantly shortened the season in nearly all Winter sports. The adjustments to the Fall and Winter seasons are summarized in the table below:

Season Length Comparison – Typical Year vs 2020-21 COVID Adjusted Schedule – Measured in Weeks from the First Allowable Contact/Normal Practice Date to the State Finals

SPORT	SEASON	TYPICAL YEAR	2020-21 ADJUSTED	% Difference
Football - 11-Player	Fall	16	14	-13%
Football - 8-Player	Fall	15	13	-13%
LP Swimming & Diving (Girls)	Fall	15	12	-20%
Soccer (Boys)	Fall	13	13	0%
Volleyball	Fall	15	12	-20%
Basketball	Winter	19	10	-47%
Bowling	Winter	16	11	-31%
Competitive Cheer	Winter	17	8	-53%
Gymnastics	Winter	18	12	-33%
Ice Hockey	Winter	17	8	-53%
LP Swimming & Diving (Boys)	Winter	16	9	-44%
UP Swimming & Diving (Boys & Girls)	Winter	15	9	-40%
Wrestling	Winter	16	9	-44%

- It should be noted that although there were no government or health department orders preventing the start of Spring sports, the start of Spring season was pushed back one week from March 15th to March 22nd following the adjustments to the Winter season schedule.

2. Quarantines following positive COVID-19 tests and close contacts/contact tracing also led to the cancellation of practices and games as schools struggled to reschedule games and activity within the shortened seasons. Although there is no quantifiable data for practice sessions, there is some limited data on the number of games. From 2016-17 through 2018-19, that last three school years not affected by the COVID-19 pandemic, an average of 211,042 contests were entered on school schedule pages on MHSAA.com annually. In 2020-21 there was a 23% drop from this average with a total of 161,923 contests entered.
3. In addition to the decreases in practices and games, the number of students participating in these activities also decreased. While it is unclear how many individual students and teams across the state missed practices and games because of positive COVID tests and quarantines, it is safe to assume fewer students were available to participate at any given time throughout the season because of COVID-19.

Perhaps the bigger issue was the overall decrease in participation, i.e., students dropping out of participation in MHSAA sponsored sports during the 2020-21 school year altogether. With the Government issued COVID-19 restrictions and the uncertainty that surrounded school sports in Michigan, some students likely left the state or sought opportunities to play outside of interscholastic athletics. Numerous students individually likely chose not to participate in school sports to limit their potential exposure to COVID-19. Some students likely may have chosen not to participate in response to MDHHS testing and masking requirements. Subsequently, with individual students opting out of participation, some schools did not have enough players to field teams. Additionally, some schools did not offer sports or sub varsity teams because of local school policies in response to the pandemic, which limited participation opportunities even more. All contributing factors combined, total participation in MHSAA sponsored sports decreased 11% from 274,126 students in the 2019-20 school year to 243,912 students in 2020-21.

With shorter seasons, fewer practices, fewer games, and fewer participants, it is safe to assume that there was decreased exposure to potential head injury events. The 42.1% decrease in total reports from the previous year is most likely significantly related to the decreased exposure.

- 2020-21 head injury reporting rates in all MHSAA sports also decreased significantly. The table below shows head injury reports per thousand participants in all contact sports (i.e., sports that emphasize or require physical contact between players) dropped anywhere from 27% to 73% in 2020-21 compared to 2018-19, the last school year unaffected by the COVID-19 pandemic.

**Participation, Head Injury Report and Head Injury Reports Per Thousand Participants
– Comparison between 2018-19 and 2020-21, MHSAA Head Injury Reporting System**

SPORT	SEASON	PARTICIPATION			HEAD INJURY REPORTS			HEAD INJURY REPORT RATES PER THOUSAND PARTICIPANTS		
		2018-19	2020-21	% Change	2018-19	2020-21	% Change	2018-19	2020-21	% Change
Football - 11-Player	Fall	33,962	30,745	-9.47%	1,514	685	-54.76%	45	22	-50.02%
Football - 8-Player	Fall	1,450	1,760	21.38%	43	27	-37.21%	30	15	-48.27%
Soccer (Boys)	Fall	14,492	13,189	-8.99%	202	91	-54.95%	14	7	-50.50%
Basketball (Boys)	Winter	21,125	18,821	-10.91%	142	87	-38.73%	7	5	-31.23%
Basketball (Girls)	Winter	15,376	13,185	-14.25%	302	136	-54.97%	20	10	-47.48%
Competitive Cheer	Winter	6,672	5,191	-22.20%	135	51	-62.22%	20	10	-51.44%
Ice Hockey	Winter	3,294	3,234	-1.82%	115	30	-73.91%	35	9	-73.43%
Wrestling	Winter	9,494	7,579	-20.17%	210	72	-65.71%	22	9	-57.05%
Lacrosse (Boys)	Spring	5,438	4,510	-17.07%	88	50	-43.18%	16	11	-31.49%
Lacrosse (Girls)	Spring	3,180	2,777	-12.67%	65	41	-36.92%	20	15	-27.77%
Soccer (Girls)	Spring	13,209	11,130	-15.74%	330	203	-38.48%	25	18	-26.99%

- Head injury reports in girls alpine skiing returned to normal levels (2 per 1,000 participants in 2020-21) following the increase from 3 per 1,000 participants in 2018-19 to 15 per 1,000 participants in 2019-20. That change between 2018-19 and 2019-20 was the largest increase observed in any MHSAA sponsored sport since data collection began in 2015-16 and annual changes in head injury reporting rates could be calculated. The return to the typical head injury reporting rate suggests 2019-20 was simply an anomaly based on low participation and low head injury reports in alpine skiing.
- 2020-21 marked the first year ice hockey and wrestling were not among MHSAA sports with the highest incidence of head injury reports. Boys lacrosse and girls lacrosse replaced ice hockey and wrestling in the top of head injury reports per 1,000 participants, most likely because the Spring season was relatively normal compared to the COVID-19 related interruptions and adjustments that marred

Winter season. 11-player football, 8-player football, girls basketball, and girls soccer continue to have the highest rate of head injury reports – these four sports have been in the top six with regard to head injury reports per 1,000 participants in every year head injury reporting data has been tracked and not affected by the COVID-19 pandemic.

- As in the previous three years, approximately two-thirds of reported concussions occur during competition (69.5%). Looking at each sport individually, about two-thirds or more of all reported concussions occur during competition with the exception of competitive cheer (94.1% in practice; 5.9% in competition), and wrestling (40.3% in practice; 59.7% in competition). Competitive cheer continues to be the only sport with a reasonably large sample size of head injury reports in which more concussions were sustained during practice.
- The 2020 football season marked the sixth season since the institution of MHSAA policies reducing contact during practices. Over these six years, the incidence (percentage of reports) of head injuries incurred during practice have remained consistent:

11-Player Football – 35.4% in 2015; 37.5% in 2016; 37.0% in 2017; 36.0% in 2018; 34.3% in 2019; 34.2% in 2020

8-Player Football – 15.6% in 2015; 18.9% in 2016; 18.0% in 2017; 18.6% in 2018; 25.0% in 2019; 14.8% in 2020

Overall head injury reports per 1,000 participants in both 11-Player Football and 8-Player Football decreased by approximately 50% in 2020 compared to the previous five years of data collection:

11-Player Football – 49 in 2015; 45 in 2016; 41 in 2017; 45 in 2018; 43 in 2019; 22 in 2020

8-Player Football – 34 in 2015; 32 in 2016; 38 in 2017; 30 in 2018; 35 in 2019; 15 in 2020

As head injury reporting rate in football were consistent across the first five years of data collection, factors related to the COVID-19 pandemic are most certainly the reason for this decrease during the 2020 season.

- The majority of injured athletes are initially examined by an athletic trainer (59.8%). That proportion is likely higher as 17.1% of athletes were reported as

having been initially looked at by multiple examiners. 16.5% were initially examined only by the coach.

- 19.5% of athletes determined to have a concussion were not removed from activity at the time of the injury. This is by no means an indication the injury was mismanaged at the time of the event; the athlete may not have reported the injury, symptoms may not have presented until after the event, or any number of different situations may have led to the athlete not being removed at the time of injury. The percentage of athletes later determined to have a concussion but were not removed from activity at the time of the injury has remained consistent over the five years this data has been collected:

16.4% in 2016-17; 16.5% in 2017-18; 18.5% in 2018-19; 18.0% in 2019-20
19.5% in 2020-21

- 64.2% of concussions caused athletes to be withheld from activity for 6 days or more, which suggests that a degree of caution is being exercised in most cases following removal from play.
- At the time of this summary, Online Follow-up Reports were not completed for 291 (17.1%) of the 1,705 reports.
- The MHSAA has received 312 Return to Activity and Post-Concussion Consent Forms (16.2% of the 1,928 reported head injuries for which a clearance should have been received). This is the fifth year in a row the percentage has declined – in 2016-17, the MHSAA received clearance documentation in 46.0% of suspected head injuries; 40.5% in 2017-19; 37.9% in 2018-19; and 30.3% in 2019-20.
- In the Fall season, 411 schools reported concussions – 286 schools reported 0 concussions for the season – 27 schools did not have any Fall sports – 21 schools did not submit any response.
- In the Winter season, 282 schools reported concussions – 50 schools reported 0 concussions for the season – 26 schools did not have any Winter sports – 8 schools did not submit any response.
- In the Spring season, 254 schools reported concussions – 434 schools reported 0 concussions for the season – 46 schools did not have any Spring sports – 12 schools did not submit any response.

33.4 Emerging Inquires for Year #7 (2021-22)

- A. Prior to the start of the 2020-21 school year, it was unclear what impact the COVID-19 pandemic would have on the incidence of head injuries in MHSAA sponsored activities. With the lack of access to typical training and facilities for an extended period of time prior to the 2020-21 school year, and numerous delays and interruptions in activity across all three sports season as a result of COVID-19 pandemic orders from the Michigan Governor and the Michigan Department of Health and Human Services, an increase in the incidence of head injuries sustained in MHSAA sports would not have been a surprise. The disruptions in normal sport activity and participation seems to have limited exposure to potential head injury events, however. Data from the 2020-21 school year show a significant decrease in the overall head injury reports and head injury reports per thousand participants in essentially all MHSAA sponsored sports.

The MHSAA will have to closely monitor data for the 2021-22 school year to see if head injury reporting returns to the levels seen prior to COVID-19 pandemic.

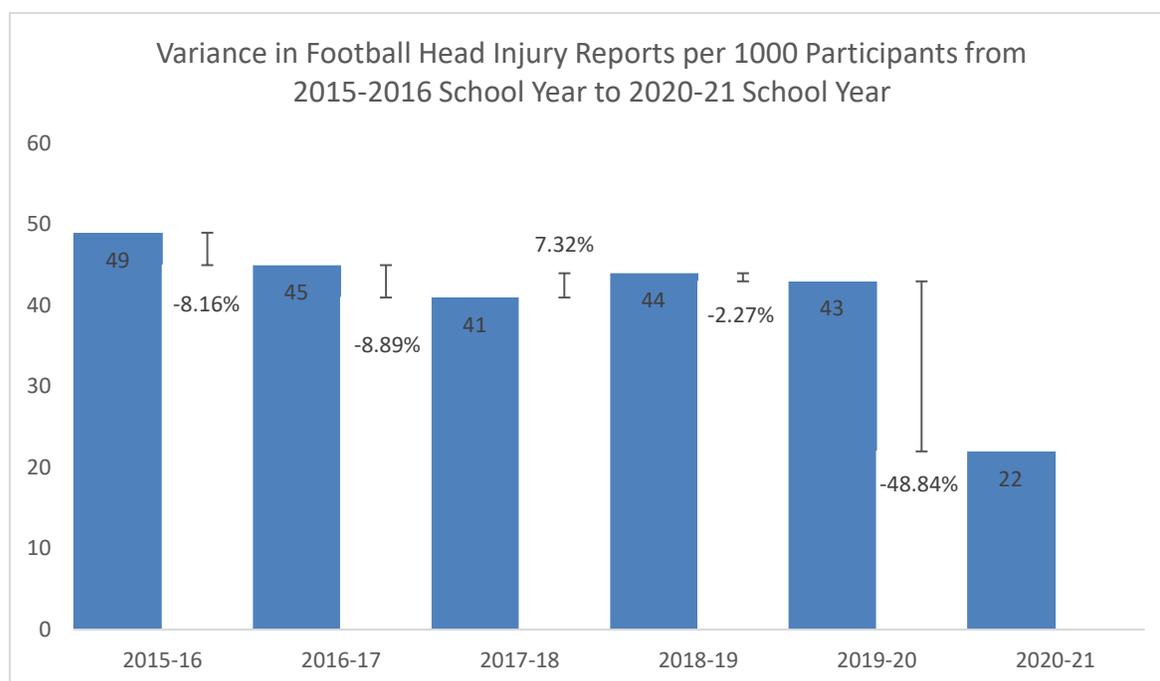
- B. The 2020 football season marked the seventh since MHSAA policies reducing contact during practices have been in effect, and the sixth year the MHSAA has been collecting data related to head injuries. During that time, we have closely monitored the head injury reporting data for both 11-player and 8-player football to determine whether reduced contact during practice, accompanied by more awareness and use of non-contact methods of teaching blocking and tackling, could potentially lead to lower occurrences of concussions in football.

In the two seasons following the initial MHSAA football practice policies instituted in the 2014-15 school year, football head injuries per thousand participants (i.e., 11-player and 8-player football head injury reports and participation data combined) decreased approximately 17% (see figure below). The decrease was promising, but unfortunately with no data prior to the 2015-16 school year for comparison and football head injury reports increasing from 41 per 1,000 in 2017-18 to 44 per 1,000 in 2018-19, it seemed the variances observed could simply be the result of year-to-year fluctuations.

An additional MHSAA football policy took effect in 2019-20. This policy limited collision contact during practice to no more than 6 hours in a week during the first two weeks of practice before the first contest, and 30 total minutes of collision contact in any week after the first regular-season game.

In its first year of adoption in 2019-20, football head injury reports per thousand participants dropped 2.27%. In 2020-21, football head injury reports per thousand

participants decreased 48.84%. Although this drop in 2020-21 is likely associated with the COVID-19 pandemic, very similar decreases in all other contact sports were also seen. It will be interesting to observe what impact the practice limitations may have on the incidence of head injuries in the 2021-22 school year and beyond as we move to more normal practice and game schedules. With that, it is clear we must continue to examine closely the data related to football and try to identify where risks for injury are real and can be reduced.



C. The MHSAA received record low clearance documentation for athletes returning to activity following a suspected concussion in 2020-21, which is understandable given the challenges presented to MHSAA member schools by the COVID-19 pandemic. Notwithstanding, the MHSAA Concussion Protocol and reporting initiative requires renewed attention by member schools. The MHSAA which must continue to investigate and widely discuss procedures that will improve compliance, especially:

1. Prompt submission of initial reports.
2. Timely submission of follow-up reports.
3. Consistent submission of Return to Activity documentation.

33.5 Next Steps

The 2015-16 school year report raised some initial themes while the 2016-17 report may have started the identification of trends. The 2017-18, 2018-19, 2019-20, and 2020-21 data has helped to refine our understanding of those trends and also continues to raise new questions.

Understanding questions does not demand that all actions must be delayed. It is not too soon to experiment with more head protection and modified play and practice rules in football, ice hockey, soccer, wrestling and lacrosse – all of which rank in the top ten sports in terms of number of injuries per thousand participants.

Moreover, efforts must be made to continue to educate players, parents, coaches and others involved to observe and report the signs and symptoms of concussion that they experience or that they see in others.

The 2021-22 school year will begin with the expectations that, again, nearly 100 percent of MHSAA member high schools will submit initial and follow-up reports of head injuries for every level of every MHSAA sport they sponsor. Furthermore, each MHSAA Sport Committee will examine the 2020-21 concussion data in their sport to assist in the health and risk management of the participants. The MHSAA Sports Medicine Advisory Committee (SMAC) will review the data to furnish additional educational resources and address emerging issues.

Meanwhile, the MHSAA invites colleges, universities and health care system in Michigan, as well as the National Federation of State High School Associations, to consider how they may assist in addressing developing issues and any other questions suggested by this data.

Interested representatives of these entities are invited to contact:

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