

SUMMARY REPORT

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

2015-2016 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 that 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 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 designed to record and track these events in an effort to address the issue. 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 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 2015-16 school year.

The MHSAA is an association of approximately 1500 individual public, private and parochial high schools and junior high/middle schools. For the 2015-16 school year, member schools include 755 high schools of various enrollments and resources (187 schools with an enrollment greater than 875 students, 187 schools with an enrollment between 874-420 students, 187 schools with an enrollment between 419-213 students, and 187 students with an enrollment less than 212 students) and 750+ member junior/middle schools*.

*Junior high/middle school head injury data is not part of this report. Injuries to 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 is 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 have 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 – 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 the

incident occurred in a 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, 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 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.

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 gathered 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, 2015-16 School Year

Baseball		Boys Golf		Softball	
Varsity	35	Varsity	1	Varsity	66
Junior Varsity	26	Junior Varsity	0	Junior Varsity	77
Freshman	4	Freshman	0	Freshman	4
TOTAL	65	TOTAL	1	TOTAL	147
Boys Basketball		Girls Golf		Boys Swimming & Diving	
Varsity	111	Varsity	2	Varsity	13
Junior Varsity	87	Junior Varsity	0	Junior Varsity	1
Freshman	49	Freshman	0	Freshman	0
TOTAL	247	TOTAL	2	TOTAL	14
Girls Basketball		Gymnastics		Girls Swimming & Diving	
Varsity	202	Varsity	8	Varsity	30
Junior Varsity	182	Junior Varsity	0	Junior Varsity	1
Freshman	70	Freshman	0	Freshman	0
TOTAL	454	TOTAL	8	TOTAL	31
Boys Bowling		Ice Hockey		Boys Tennis	
Varsity	1	Varsity	117	Varsity	0
Junior Varsity	0	Junior Varsity	9	Junior Varsity	0
Freshman	0	Freshman	0	Freshman	0
TOTAL	1	TOTAL	126	TOTAL	0
Girls Bowling		Boys Lacrosse		Girls Tennis	
Varsity	0	Varsity	51	Varsity	2
Junior Varsity	0	Junior Varsity	30	Junior Varsity	4
Freshman	0	Freshman	4	Freshman	0
TOTAL	0	TOTAL	85	TOTAL	6
Competitive Cheer		Girls Lacrosse		Boys Track & Field	
Varsity	88	Varsity	23	Varsity	3
Junior Varsity	33	Junior Varsity	7	Junior Varsity	1
Freshman	1	Freshman	0	Freshman	0
TOTAL	122	TOTAL	30	TOTAL	4
Boys Cross Country		Boys Skiing		Girls Track & Field	
Varsity	3	Varsity	2	Varsity	18
Junior Varsity	1	Junior Varsity	1	Junior Varsity	4
Freshman	0	Freshman	0	Freshman	0
TOTAL	4	TOTAL	3	TOTAL	22
Girls Cross Country		Girls Skiing		Volleyball	
Varsity	3	Varsity	5	Varsity	95
Junior Varsity	1	Junior Varsity	1	Junior Varsity	70
Freshman	0	Freshman	0	Freshman	46
TOTAL	4	TOTAL	6	TOTAL	211
11-Player Football		Boys Soccer		Wrestling	
Varsity	857	Varsity	194	Varsity	188
Junior Varsity	692	Junior Varsity	64	Junior Varsity	50
Freshman	358	Freshman	11	Freshman	7
TOTAL	1907	TOTAL	269	TOTAL	245
8-Player Football		Girls Soccer			
Varsity	30	Varsity	256		
Junior Varsity	2	Junior Varsity	136		
Freshman	0	Freshman	14		
TOTAL	32	TOTAL	406		
				TOTAL HEAD INJURIES	4452

Table 2.2 Head Injury Prevalence Rates by Sport, MHSAA Head Injury Reporting System, 2015-16 School Year

SPORT	Boys*				Girls			
	PARTICIPANTS	REPORTED HEAD INJURIES	HEAD INJURY PREVALENCE RATE	HEAD INJURIES PER 1,000 PARTICIPANTS	PARTICIPANTS	REPORTED HEAD INJURIES	HEAD INJURY PREVALENCE RATE	HEAD INJURIES PER 1,000 PARTICIPANTS
Baseball	18,179	65	0.36%	4	-	-	-	-
Basketball	21,524	247	1.15%	11	15,558	454	2.92%	29
Bowling	3,860	1	0.03%	0	3,047	0	0.00%	0
Competitive Cheer	-	-	-	-	7,062	122	1.73%	17
Cross Country	9,254	4	0.04%	0	8,403	4	0.05%	0
Football - 11 player	38,592	1,907	4.94%	49	-	-	-	-
8-player	928	32	3.45%	34	-	-	-	-
Golf	6,271	1	0.02%	0	3,460	2	0.06%	1
Gymnastics	-	-	-	-	638	8	1.25%	13
Ice Hockey	3,352	126	3.76%	38	-	-	-	-
Lacrosse	4,952	85	1.72%	17	2,775	30	1.08%	11
Skiing-Alpine	719	3	0.42%	4	652	6	0.92%	9
Soccer	14,574	269	1.85%	18	13,367	406	3.04%	30
Softball-Fast Pitch	-	-	-	-	13,788	147	1.07%	11
Swimming & Diving	4,732	14	0.30%	3	5,378	31	0.58%	6
Tennis	6,077	0	0.00%	0	8,675	6	0.07%	1
Track & Field	22,803	4	0.02%	0	16,611	22	0.13%	1
Volleyball	-	-	-	-	19,395	211	1.09%	11
Wrestling	9,601	245	2.55%	26	-	-	-	-

*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, 2015-16 School Year

Grade	Boys		Girls		Overall	
	n	%	n	%	n	%
7th	1	0.0%	1	0.1%	2	0.0%
8th	3	0.1%	4	0.3%	7	0.2%
9th	866	28.8%	454	31.3%	1320	29.6%
10th	820	27.3%	455	31.4%	1275	28.6%
11th	644	21.4%	301	20.8%	945	21.2%
12th	669	22.3%	234	16.1%	903	20.3%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

Table 2.4 Head Injuries by Level of Competition - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Freshman	433	14.4%	135	9.3%	568	12.8%
Junior Varsity	964	32.1%	516	35.6%	1480	33.2%
Varsity	1606	53.5%	798	55.1%	2404	54.0%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

Table 2.5 Head Injuries by Type of Exposure - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Practice	1002	33.4%	477	32.9%	1479	33.2%
Competition	2001	66.6%	972	67.1%	2973	66.8%
TOTAL	3003	100.0%	1449	100.0%	4452	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, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Start of Practice	119	11.9%	65	13.6%	184	12.4%
Middle of Practice	577	57.6%	257	53.9%	834	56.4%
End of Practice	306	30.5%	155	32.5%	461	31.2%
PRACTICE TOTAL	1002	100.0%	477	100.0%	1479	100.0%
Start of Competition	191	9.5%	129	13.3%	320	10.8%
Middle of Competition	1043	52.1%	495	50.9%	1538	51.7%
End of Competition	767	38.3%	348	35.8%	1115	37.5%
COMPETITION TOTAL	2001	100.0%	972	100.0%	2973	100.0%

Table 2.7 Head Injuries by Cause of Injury Event - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Person to Person Contact	1990	66.3%	493	34.0%	2483	55.8%
Person to Object Contact (e.g. wall, ground, equipment)	736	24.5%	891	61.5%	1627	36.5%
Uncertain as to the Cause of the Event	277	9.2%	65	4.5%	342	7.7%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

Table 2.8 Head Injuries by Initial Examiner - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Athletic Trainer	1702	56.7%	733	50.6%	2435	54.7%
Coach	448	14.9%	366	25.3%	814	18.3%
Sideline Emergency Personnel	30	1.0%	10	0.7%	40	0.9%
Other Appropriate Health Care Professional	50	1.7%	25	1.7%	75	1.7%
DO	8	0.3%	6	0.4%	14	0.3%
MD	98	3.3%	34	2.3%	132	3.0%
PA	11	0.4%	3	0.2%	14	0.3%
NP	10	0.3%	2	0.1%	12	0.3%
Athletic Director	16	0.5%	15	1.0%	31	0.7%
Multiple Examiners	630	21.0%	255	17.6%	885	19.9%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

Table 2.9 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, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Received Authorization to Return by the End of Season	2414	80.4%	1177	81.2%	3591	80.7%
Did Not Receive Authorization to Return by the End of Season	538	17.9%	216	14.9%	754	16.9%
Follow-Up Report Not Completed	51	1.7%	56	3.9%	107	2.4%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

Table 2.10 Head Injuries by Medical Examiner Authorizing Return to Activity - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
MD	1667	55.5%	822	56.7%	2489	55.9%
DO	427	14.2%	201	13.9%	628	14.1%
PA	185	6.2%	82	5.7%	267	6.0%
NP	135	4.5%	72	5.0%	207	4.6%
Medical Examiner Data Not Available*	589	19.6%	272	18.8%	861	19.3%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

Table 2.11 Head Injuries by Clearance Return to Activity Conditions - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Unconditional Return	1665	55.4%	857	59.1%	2522	56.6%
Conditions to Return	749	24.9%	320	22.1%	1069	24.0%
Return to Activity Data Not Available*	589	19.6%	272	18.8%	861	19.3%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

Table 2.12 Head Injuries by Missed School Days After Injury Event Date - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
0 Days	1663	55.4%	690	47.6%	2353	52.9%
1-2 Days	510	17.0%	350	24.2%	860	19.3%
3-6 Days	151	5.0%	102	7.0%	253	5.7%
7-9 Days	34	1.1%	15	1.0%	49	1.1%
10-20 Days	50	1.7%	17	1.2%	67	1.5%
≥21 Days	6	0.2%	3	0.2%	9	0.2%
Missed School Data Not Available*	589	19.6%	272	18.8%	861	19.3%

TOTAL	3003	100.0%	1449	100.0%	4452	100.0%
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Table 2.13 Head Injuries by Time Between Injury Event Date and Authorization Date to Return - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2015-16 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
1-2 Days	117	3.9%	57	3.9%	174	3.9%
3-5 Days	281	9.4%	131	9.0%	412	9.3%
6-10 Days	857	28.5%	383	26.4%	1240	27.9%
11-15 Days	624	20.8%	277	19.1%	901	20.2%
16-20 Days	199	6.6%	122	8.4%	321	7.2%
≥21 Days	307	10.2%	186	12.8%	493	11.1%
Data Not Available**	618	20.6%	293	20.2%	911	20.5%
TOTAL	3003	100.0%	1449	100.0%	4452	100.0%

III. Baseball Head Injury Reports

Table 3.1 Head Injury Prevalence Rate for Baseball, MHSAA Head Injury Reporting System, 2015-16 School Year

Baseball Participation	18,179
All Baseball Head Injuries	65
Baseball Head Injury Prevalence Rate	0.4%
Baseball Head Injury Prevalence Rate Per 1,000 Participants	4

Table 3.2 Baseball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	35	53.8%
Junior Varsity	26	40.0%
Freshman	4	6.2%
TOTAL	65	100.0%

Table 3.3 Baseball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	16	24.6%
Competition	49	75.4%
TOTAL	65	100.0%

Table 3.4 Baseball Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	3	18.8%
Middle of Practice	11	68.8%
End of Practice	2	12.5%
PRACTICE TOTAL	16	100.0%
Start of Competition	8	16.3%
Middle of Competition	33	67.3%
End of Competition	8	16.3%
COMPETITION TOTAL	49	100.0%

Table 3.5 Baseball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	22	33.8%
Person to Object Contact (e.g. wall, ground, equipment)	43	66.2%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	65	100.0%

Table 3.6 Baseball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	24	36.9%
Baseball Field	12	18.5%
Dirt	8	12.3%
Wooden Gym Floor	2	3.1%
Artificial Turf	1	1.5%
Other	18	27.7%
TOTAL	65	100.0%

Table 3.7 Person to Object Baseball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	16	37.2%
Baseball Field	7	16.3%
Dirt	4	9.3%
Wooden Gym Floor	2	4.7%
Artificial Turf	1	2.3%
Other	13	30.2%
TOTAL	43	100.0%

Table 3.8 Baseball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	22	33.8%
Coach	25	38.5%
Sideline Emergency Personnel	0	0.0%
Other Appropriate Health Care Professional	0	0.0%
DO	0	0.0%
MD	1	1.5%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	17	26.2%
TOTAL	65	100.0%

Table 3.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	54	83.1%
Did Not Receive Authorization to Return by the End of Season	10	15.4%
Follow-Up Report Not Completed	1	1.5%
TOTAL	65	100.0%

Table 3.10 Baseball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	40	61.5%
DO	5	7.7%
PA	3	4.6%
NP	6	9.2%
Medical Examiner Data Not Available*	11	16.9%
TOTAL	65	100.0%

Table 3.11 Baseball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	40	61.5%
Conditions to Return	14	21.5%
Return to Activity Data Not Available*	11	16.9%
TOTAL	65	100.0%

Table 3.12 Baseball Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	32	49.2%
1-2 Days	14	21.5%
3-6 Days	7	10.8%
7-9 Days	0	0.0%
10-20 Days	1	1.5%
≥21 Days	0	0.0%
Missed School Data Not Available*	11	16.9%
TOTAL	65	100.0%

Table 3.13 Baseball Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	1	1.5%
3-5 Days	5	7.7%
6-10 Days	23	35.4%
11-15 Days	11	16.9%
16-20 Days	5	7.7%
≥21 Days	6	9.2%
Data Not Available**	14	21.5%
TOTAL	65	100.0%

1 Missing Follow Up Reports*

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

3 Data Entry Errors**

IV. Boys Basketball Head Injury Reports

Table 4.1 Head Injury Prevalence Rate for Boys Basketball, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Basketball Participation	21,524
All Reported Boys Basketball Head Injuries	247
Boys Basketball Head Injury Prevalence	1.1%
Boys Basketball Head Injury Prevalence Rate Per 1,000 Participants	11

Table 4.2 Boys Basketball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	111	44.9%
Junior Varsity	87	35.2%
Freshman	49	19.8%
TOTAL	247	100.0%

Table 4.3 Boys Basketball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	91	36.8%
Competition	156	63.2%
TOTAL	247	100.0%

Table 4.4 Boys Basketball Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	11	12.1%
Middle of Practice	47	51.6%
End of Practice	33	36.3%
PRACTICE TOTAL	91	100.0%
Start of Competition	6	3.8%
Middle of Competition	82	52.6%
End of Competition	68	43.6%
COMPETITION TOTAL	156	100.0%

Table 4.5 Boys Basketball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	123	49.8%
Person to Object Contact (e.g. wall, ground, equipment)	112	45.3%
Uncertain as to the Cause of the Event	12	4.9%
TOTAL	247	100.0%

Table 4.6 Boys Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wooden Gym Floor	165	66.8%
Basketball Court	53	21.5%
Rubberized Gym Floor	3	1.2%
Wall	3	1.2%
Bleacher	1	0.4%
Concrete	1	0.4%
Unknown/Indiscernible Surface Data	21	8.5%
TOTAL	247	100.0%

Table 4.7 Person to Object Boys Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wooden Gym Floor	77	68.8%
Basketball Court	22	19.6%
Wall	3	2.7%
Bleacher	1	0.9%
Concrete	1	0.9%
Other	8	7.1%
TOTAL	112	100.0%

Table 4.8 Boys Basketball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	129	52.2%
Coach	65	26.3%
Sideline Emergency Personnel	0	0.0%
Other Appropriate Health Care Professional	6	2.4%
DO	0	0.0%
MD	5	2.0%
PA	0	0.0%
NP	0	0.0%
Athletic Director	6	2.4%
Multiple Examiners	36	14.6%
TOTAL	247	100.0%

Table 4.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	215	87.0%
Did Not Receive Authorization to Return by the End of Season	28	11.3%
Follow-Up Report Not Completed	4	1.6%
TOTAL	247	100.0%

Table 4.10 Boys Basketball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	146	59.1%
DO	33	13.4%
PA	20	8.1%
NP	16	6.5%
Medical Examiner Data Not Available*	32	13.0%
TOTAL	247	100.0%

Table 4.11 Boys Basketball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	167	67.6%
Conditions to Return	48	19.4%
Return to Activity Data Not Available*	32	13.0%
TOTAL	247	100.0%

Table 4.12 Boys Basketball Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	123	49.8%
1-2 Days	63	25.5%
3-6 Days	19	7.7%
7-9 Days	3	1.2%
10-20 Days	7	2.8%
≥21 Days	0	0.0%
Missed School Data Not Available*	32	13.0%
TOTAL	247	100.0%

Table 4.13 Boys Basketball Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	12	4.9%
3-5 Days	20	8.1%
6-10 Days	79	32.0%
11-15 Days	55	22.3%
16-20 Days	18	7.3%
≥21 Days	31	12.6%
Data Not Available**	32	13.0%
TOTAL	247	100.0%

4 Missing Follow Up Reports*

28 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, 2015-16 School Year

Girls Basketball Participation	15,558
All Reported Girls Basketball Head Injuries	454
Girls Basketball Head Injury Prevalence Rate	2.9%
Girls Basketball Head Injury Prevalence Rate Per 1,000 Participants	29

Table 5.2 Girls Basketball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	202	44.5%
Junior Varsity	182	40.1%
Freshman	70	15.4%
TOTAL	454	100.0%

Table 5.3 Girls Basketball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	114	25.1%
Competition	340	74.9%
TOTAL	454	100.0%

Table 5.4 Girls Basketball Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	9	7.9%
Middle of Practice	65	57.0%
End of Practice	40	35.1%
PRACTICE TOTAL	114	100.0%
Start of Competition	34	10.0%
Middle of Competition	157	46.2%
End of Competition	149	43.8%
COMPETITION TOTAL	340	100.0%

Table 5.5 Girls Basketball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	200	44.1%
Person to Object Contact (e.g. wall, ground, equipment)	227	50.0%
Uncertain as to the Cause of the Event	27	5.9%
TOTAL	454	100.0%

Table 5.6 Girls Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wooden Gym Floor	298	65.6%
Basketball Court	100	22.0%
Rubberized Gym Floor	5	1.1%
Wall	4	0.9%
Unknown/Indiscernible Surface Data	47	10.4%
TOTAL	454	100.0%

Table 5.7 Person to Object Girls Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wooden Gym Floor	160	70.5%
Basketball Court	40	17.6%
Rubberized Gym Floor	2	0.9%
Wall	4	1.8%
Other	21	9.3%
TOTAL	227	100.0%

Table 5.8 Girls Basketball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	243	53.5%
Coach	111	24.4%
Sideline Emergency Personnel	0	0.0%
Other Appropriate Health Care Professional	11	2.4%
DO	1	0.2%
MD	6	1.3%
PA	1	0.2%
NP	1	0.2%
Athletic Director	5	1.1%
Multiple Examiners	75	16.5%
TOTAL	454	100.0%

Table 5.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	390	85.9%
Did Not Receive Authorization to Return by the End of Season	46	10.1%
Follow-Up Report Not Completed	18	4.0%
TOTAL	454	100.0%

Table 5.10 Girls Basketball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	292	64.3%
DO	54	11.9%
PA	22	4.8%
NP	22	4.8%
Medical Examiner Data Not Available*	64	14.1%
TOTAL	454	100.0%

Table 5.11 Girls Basketball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	283	62.3%
Conditions to Return	107	23.6%
Return to Activity Data Not Available*	64	14.1%
TOTAL	454	100.0%

Table 5.12 Girls Basketball Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	228	50.2%
1-2 Days	118	26.0%
3-6 Days	31	6.8%
7-9 Days	7	1.5%
10-20 Days	6	1.3%
≥21 Days	0	0.0%
Missed School Data Not Available*	64	14.1%
TOTAL	454	100.0%

Table 5.13 Girls Basketball Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	18	4.0%
3-5 Days	36	7.9%
6-10 Days	109	24.0%
11-15 Days	102	22.5%
16-20 Days	39	8.6%
≥21 Days	80	17.6%
Data Not Available**	70	15.4%
TOTAL	454	100.0%

18 Missing Follow Up Reports*

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

6 Data Entry Errors**

VI. Boys Bowling Head Injury Reports

Table 6.1 Head Injury Prevalence Rate for Boys Bowling, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Bowling Participation	3,860
All Reported Boys Bowling Head Injuries	1
Boys Bowling Head Injury Prevalence Rate	0.0%
Boys Bowling Head Injury Prevalence Rate Per 1,000 Participants	0

Table 6.2 Boys Bowling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

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

Table 6.3 Boys Bowling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

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

Table 6.4 Boys Bowling Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 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	0	0%
Middle of Competition	0	0%
End of Competition	0	0%
COMPETITION TOTAL	0	0%

Table 6.5 Boys Bowling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	1	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	1	100.0%

Table 6.6 Boys Bowling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unknown	1	100.0%
TOTAL	1	100.0%

Table 6.7 Boys Bowling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	0	0.0%
Coach	1	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	1	100.0%

Table 6.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	1	100.0%
Did Not Receive Authorization to Return by the End of Season	0	0.0%
Follow-Up Report Not Completed	0	0.0%
TOTAL	1	100.0%

Table 6.9 Boys Bowling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 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 6.10 Boys Bowling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	1	100.0%
Conditions to Return	0	0.0%
Return to Activity Data Not Available*	0	0.0%
TOTAL	1	100.0%

Table 6.11 Boys Bowling Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 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 6.12 Boys Bowling Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	1	100.0%
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**

VII. Competitive Cheer Head Injury Reports

Table 7.1 Head Injury Prevalence Rate for Competitive Cheer, MHSAA Head Injury Reporting System, 2015-16 School Year

Competitive Cheer Participation	7,062
All Reported Competitive Cheer Head Injuries	122
Competitive Cheer Head Injury Prevalence Rate	1.7%
Competitive Cheer Head Injury Prevalence Rate Per 1000 Participants	17

Table 7.2 Competitive Cheer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	88	72.1%
Junior Varsity	33	27.0%
Freshman	1	0.8%
TOTAL	122	100.0%

Table 7.3 Competitive Cheer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	103	84.4%
Competition	19	15.6%
TOTAL	122	100.0%

Table 7.4 Competitive Cheer Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	8	7.8%
Middle of Practice	63	61.2%
End of Practice	32	31.1%
PRACTICE TOTAL	103	100.0%
Start of Competition	3	15.8%
Middle of Competition	8	42.1%
End of Competition	8	42.1%
COMPETITION TOTAL	19	100.0%

Table 7.5 Competitive Cheer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	75	61.5%
Person to Object Contact (e.g. wall, ground, equipment)	44	36.1%
Uncertain as to the Cause of the Event	3	2.5%
TOTAL	122	100.0%

Table 7.6 Competitive Cheer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Cheer Mat	54	44.3%
Wrestling-Type Mat	48	39.3%
Wooden Gym Floor	5	4.1%
Indoor Tile Type Floor	2	1.6%
Other	13	10.7%
TOTAL	122	100.0%

Table 7.7 Person to Object Competitive Cheer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Cheer Mat	20	48.8%
Wrestling-Type Mat	17	41.5%
Wooden Gym Floor	2	4.9%
Indoor Tile Type Floor	2	4.9%
TOTAL	41	100.0%

Table 7.8 Competitive Cheer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	60	49.2%
Coach	34	27.9%
Competitive Emergency Personnel	0	0.0%
Other Appropriate Health Care Professional	3	2.5%
DO	1	0.8%
MD	3	2.5%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	21	17.2%
TOTAL	122	100.0%

Table 7.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	102	83.6%
Did Not Receive Authorization to Return by the End of Season	14	11.5%
Follow-Up Report Not Completed	6	4.9%
TOTAL	122	100.0%

Table 7.10 Competitive Cheer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	67	54.9%
DO	23	18.9%
PA	7	5.7%
NP	5	4.1%
Medical Examiner Data Not Available*	20	16.4%
TOTAL	122	100.0%

Table 7.11 Competitive Cheer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	78	63.9%
Conditions to Return	24	19.7%
Return to Activity Data Not Available*	20	16.4%
TOTAL	122	100.0%

Table 7.12 Competitive Cheer Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	62	50.8%
1-2 Days	29	23.8%
3-6 Days	9	7.4%
7-9 Days	0	0.0%
10-20 Days	1	0.8%
≥21 Days	1	0.8%
Missed Data Not Available*	20	16.4%
TOTAL	122	100.0%

Table 7.13 Competitive Cheer Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	7	5.7%
3-5 Days	11	9.0%
6-10 Days	29	23.8%
11-15 Days	18	14.8%
16-20 Days	12	9.8%
≥21 Days	22	18.0%
Data Not Available**	23	18.9%
TOTAL	122	100.0%

6 Missing Follow Up Reports*

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

3 Data Entry Errors**

VIII. Boys Cross County Head Injury Reports

Table 8.1 Head Injury Prevalence Rate for Boys Cross Country, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Cross Country Participation	9,254
All Reported Boys Cross Country Head Injuries	4
Boys Cross Country Head Injury Prevalence Rate	0.0%
Boys Cross Country Head Injury Prevalence Rate Per 1,000 Participants	0

Table 8.2 Boys Cross Country Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	3	75.0%
Junior Varsity	1	25.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 8.3 Boys Cross Country Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	4	100.0%
Competition	0	0.0%
TOTAL	4	100.0%

Table 8.4 Boys Cross Country Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	0	0.0%
Middle of Practice	1	25.0%
End of Practice	3	75.0%
PRACTICE TOTAL	4	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 8.5 Boys Cross Country Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	4	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	4	100.0%

Table 8.6 Boys Cross Country Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	2	50.0%
Asphalt	2	50.0%
TOTAL	4	100.0%

Table 8.7 Boys Cross Country Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 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	2	50.0%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	0	0.0%
TOTAL	4	100.0%

Table 8.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	3	75.0%
Did Not Receive \Authorization to Return by the End of Season	1	25.0%
Follow-Up Report Not Completed	0	0.0%
TOTAL	4	100.0%

Table 8.9 Boys Cross Country Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	2	50.0%
DO	0	0.0%
PA	1	25.0%
NP	0	0.0%
Medical Examiner Data Not Available*	1	25.0%
TOTAL	4	100.0%

Table 8.10 Boys Cross Country Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	2	50.0%
Conditions to Return	1	25.0%
Return to Activity Data Not Available*	1	25.0%
TOTAL	4	100.0%

Table 8.11 Boys Cross Country Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 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	1	25.0%
≥21 Days	0	0.0%
Missed Data Not Available*	1	25.0%
TOTAL	4	100.0%

Table 8.12 Boys Cross Country Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	2	50.0%
11-15 Days	1	25.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data Not Available**	1	25.0%
TOTAL	4	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**

IX. Girls Cross Country Head Injury Reports

Table 9.1 Head Injury Prevalence Rate for Girls Cross Country, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Cross Country Participation	8,405
All Reported Girls Cross Country Head Injuries	4
Girls Cross Country Head Injury Prevalence Rate	0.0%
Girls Cross Country Head Injury Prevalence Rate Per 1,000 Participants	0

Table 9.2 Girls Cross Country Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	3	75.0%
Junior Varsity	1	25.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 9.3 Girls Cross Country Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	4	100.0%
Competition	0	0.0%
TOTAL	4	100.0%

Table 9.4 Girls Cross Country Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	3	75.0%
Middle of Practice	0	0.0%
End of Practice	1	25.0%
PRACTICE TOTAL	4	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 9.5 Girls Cross Country Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	3	75.0%
Uncertain as to the Cause of the Event	1	25.0%
TOTAL	4	100.0%

Table 9.6 Girls Cross Country Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	2	50.0%
Concrete	2	50.0%
TOTAL	4	100.0%

Table 9.7 Girls Cross Country Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	2	50.0%
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	0	0.0%
TOTAL	4	100.0%

Table 9.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	2	50.0%
Did Not Receive Authorization to Return by the End of Season	2	50.0%
Follow-Up Report Not Completed	0	0.0%
TOTAL	4	100.0%

Table 9.9 Girls Cross Country Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	2	50.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical Examiner Data Not Available**	2	50.0%
TOTAL	4	100.0%

Table 9.10 Girls Cross Country Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	1	25.0%
Conditions to Return	1	25.0%
Return to Activity Data Not Available**	2	50.0%
TOTAL	4	100.0%

Table 9.11 Girls Cross Country Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	0	0.0%
1-2 Days	2	50.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed Data Not Available**	2	50.0%
TOTAL	4	100.0%

Table 9.12 Girls Cross Country Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 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	1	25.0%
Data Not Available***	3	75.0%
TOTAL	4	100.0%

0 Missing Follow Up Reports*

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

1 Data Entry Errors**

X. 11-Player Football Head Injury Reports

Table 10.1 Head Injury Prevalence Rate for 11-Player Football, MHSAA Head Injury Reporting System, 2015-16 School Year

11-Player Football Participation	38,592
All Reported 11-Player Football Head Injuries	1,907
11-Player Football Head Injury Prevalence Rate	4.9%
11-Player Football Head Injury Prevalence Rate Per 1,000 Participants	49

Table 10.2 11-Player Football Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	857	44.9%
Junior Varsity	692	36.3%
Freshman	358	18.8%
TOTAL	1,907	100.0%

Table 10.3 11-Player Football Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	676	35.4%
Competition	1,231	64.6%
TOTAL	1,907	100.0%

Table 10.4 11-Player Football Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	82	12.1%
Middle of Practice	405	59.9%
End of Practice	189	28.0%
PRACTICE TOTAL	676	100.0%
Start of Competition	112	9.1%
Middle of Competition	624	50.7%
End of Competition	495	40.2%
COMPETITION TOTAL	1,231	100.0%

Table 10.5 11-Player Football Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	1,467	76.9%
Person to Object Contact (e.g. wall, ground, equipment)	232	12.2%
Uncertain as to the Cause of the Event	208	10.9%
TOTAL	1,907	100.0%

Table 10.6 11-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	1,227	64.3%
Artificial Turf	556	29.2%
Football Field	92	4.8%
Ground	6	0.3%
Concrete	2	0.1%
Indoor Tile Type Floor	1	0.1%
Unknown/Indiscernible Surface Data	23	1.2%
TOTAL	1,907	100.0%

Table 10.7 Person to Object 11-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	159	68.5%
Artificial Turf	54	23.3%
Football Field	12	5.2%
Ground	4	1.7%
Concrete	1	0.4%
Other	2	0.9%
TOTAL	232	100.0%

Table 10.8 11-Player Football Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	1,115	58.5%
Coach	224	11.7%
Sideline Emergency Personnel	21	1.1%
Other Appropriate Health Care Professional	30	1.6%
DO	7	0.4%
MD	60	3.1%
PA	9	0.5%
NP	8	0.4%
Athletic Director	6	0.3%
Multiple Examiners	427	22.4%
TOTAL	1,907	100.0%

Table 10.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	1,517	79.5%
Did Not Receive Authorization to Return by the End of Season	363	19.0%
Follow-Up Report Not Completed	27	1.4%
TOTAL	1,907	100.0%

Table 10.10 11-Player Football Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	1,040	54.5%
DO	278	14.6%
PA	118	6.2%
NP	81	4.2%
Medical Examiner Data Not Available*	390	20.5%
TOTAL	1,907	100.0%

Table 10.11 11-Player Football Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	1,010	53.0%
Conditions to Return	507	26.6%
Return to Activity Data Not Available*	390	20.5%
TOTAL	1,907	100.0%

Table 10.12 11-Player Football Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	1,090	57.2%
1-2 Days	283	14.8%
3-6 Days	85	4.5%
7-9 Days	21	1.1%
10-20 Days	33	1.7%
≥21 Days	5	0.3%
Missed School Data Not Available*	390	20.5%
TOTAL	1,907	100.0%

Table 10.13 11-Player Football Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	66	3.5%
3-5 Days	199	10.4%
6-10 Days	525	27.5%
11-15 Days	418	21.9%
16-20 Days	116	6.1%
≥21 Days	175	9.2%
Data Not Available**	408	21.4%
TOTAL	1,907	100.0%

27 Missing Follow Up Reports*

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

18 Data Entry Errors**

XI. 8-Player Football Head Injuries Reports

Table 11.1 Head Injury Prevalence Rate for 8-Player Football, MHSAA Head Injury Reporting System, 2015-16 School Year

8-Player Football Participation	928
All Reported 8-Player Football Head Injuries	32
8-Player Football Head Injury Prevalence	3.4%
8-Player Football Head Injury Prevalence Rate Per 1,000 Participants	34

Table 11.2 8-Player Football Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	30	93.8%
Junior Varsity	2	6.3%
Freshman	0	0.0%
TOTAL	32	100.0%

Table 11.3 8-Player Football Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	5	15.6%
Competition	27	84.4%
TOTAL	32	100.0%

Table 11.4 8-Player Football Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	1	20.0%
Middle of Practice	3	60.0%
End of Practice	1	20.0%
PRACTICE TOTAL	5	100.0%
Start of Competition	4	14.8%
Middle of Competition	13	48.1%
End of Competition	10	37.0%
COMPETITION TOTAL	27	100.0%

Table 11.5 8-Player Football Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	23	71.9%
Person to Object Contact (e.g. wall, ground, equipment)	3	9.4%
Uncertain as to the Cause of the Event	6	18.8%
TOTAL	32	100.0%

Table 11.6 8-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	26	81.3%
Artificial Turf	0	0.0%
Football Field	5	15.6%
Ground	0	0.0%
Concrete	0	0.0%
Indoor Tile Type Floor	0	0.0%
Unknown/Indiscernible Surface Data	1	3.1%
TOTAL	32	100.0%

Table 11.7 Person to Object 8-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	2	66.7%
Artificial Turf	0	0.0%
Football Field	0	0.0%
Ground	0	0.0%
Concrete	0	0.0%
Other	1	33.3%
TOTAL	3	100.0%

Table 11.8 8-Player Football Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	9	28.1%
Coach	11	34.4%
Sideline Emergency Personnel	2	6.3%
Other Appropriate Health Care Professional	1	3.1%
DO	0	0.0%
MD	1	3.1%
PA	2	6.3%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	6	18.8%
TOTAL	32	100.0%

Table 11.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	26	81.3%
Did Not Receive Authorization to Return by the End of Season	6	18.8%
Follow-Up Report Not Completed	0	0.0%
TOTAL	32	100.0%

Table 11.10 8-Player Football Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	17	53.1%
DO	3	9.4%
PA	3	9.4%
NP	3	9.4%
Medical Examiner Data Not Available*	6	18.8%
TOTAL	32	100.0%

Table 11.11 8-Player Football Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	17	53.1%
Conditions to Return	9	28.1%
Return to Activity Data Not Available*	6	18.8%
TOTAL	32	100.0%

Table 11.12 8-Player Football Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	17	53.1%
1-2 Days	8	25.0%
3-6 Days	1	3.1%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed School Data Not Available*	6	18.8%
TOTAL	32	100.0%

Table 11.13 8-Player Football Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	12	37.5%
11-15 Days	8	25.0%
16-20 Days	2	6.3%
≥21 Days	3	9.4%
Data Not Available**	7	21.9%
TOTAL	32	100.0%

0 Missing Follow Up Reports*

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

1 Data Entry Errors**

XII. Boys Golf Head Injury Reports

Table 12.1 Head Injury Prevalence Rate for Boys Golf, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Golf Participation	6,271
All Boys Golf Head Injuries	1
Boys Golf Head Injury Prevalence Rate	0.0%
Boys Golf Head Injury Prevalence Rate Per 1,000 Participants	0

Table 12.2 Boys Golf Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

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

Table 12.3 Boys Golf Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

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

Table 12.4 Boys Golf Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 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	1	100.0%
COMPETITION TOTAL	1	100.0%

Table 12.5 Boys Golf Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	1	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	1	100.0%

Table 12.6 Boys Golf Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	1	100.0%
TOTAL	1	100.0%

Table 12.7 Boys Golf Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	0	0.0%
Coach	1	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	1	100.0%

Table 12.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	0	0.0%
Did Not Receive Authorization to Return by the End of Season	1	100.0%
Follow-Up Report Not Completed	0	0.0%
TOTAL	1	100.0%

Table 12.9 Boys Golf Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 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 12.10 Boys Golf Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 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 12.11 Boys Golf Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 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 12.12 Boys Golf Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 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*

XIII. Girls Golf Head Injury Reports

Table 13.1 Head Injury Prevalence Rate for Girls Golf, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Golf Participation	3,460
All Reported Girls Golf Head Injuries	2
Girls Golf Head Injury Prevalence Rate	0.1%
Girls Golf Head Injury Prevalence Rate Per 1,000 Participants	1

Table 13.2 Girls Golf Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

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

Table 13.3 Girls Golf Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

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

Table 13.4 Girls Golf Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	1	50.0%
Middle of Practice	0	0.0%
End of Practice	0	0.0%
PRACTICE TOTAL	1	50.0%
Start of Competition	0	0.0%
Middle of Competition	1	100.0%
End of Competition	0	0.0%
COMPETITION TOTAL	1	100.0%

Table 13.5 Girls Golf Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	2	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	2	100.0%

Table 13.6 Girls Golf Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	2	100.0%
TOTAL	2	100.0%

Table 13.7 Girls Golf Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	0	0.0%
Coach	2	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	2	100.0%

Table 13.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	2	100.0%
Did Not Receive Authorization to Return by the End of Season	0	0.0%
Follow-Up Report Not Completed	0	0.0%
TOTAL	2	100.0%

Table 13.9 Girls Golf Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 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 13.10 Girls Golf Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	0	0.0%
Conditions to Return	2	100.0%
Return to Activity Data Not Available*	0	0.0%
TOTAL	2	100.0%

Table 13.11 Girls Golf Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	1	50.0%
1-2 Days	0	0.0%
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 13.12 Girls Golf Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

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

XIV. Gymnastics Head Injury Reports

Table 14.1 Head Injury Prevalence Rate for Gymnastics, MHSAA Head Injury Reporting System, 2015-16 School Year

Gymnastics Participation	638
All Reported Gymnastics Head Injuries	8
Gymnastics Head Injury Prevalence Rate	1.3%
Gymnastics Head Injury Prevalence Rate Per 1,000 Participants	13

Table 14.2 Gymnastics Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	8	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	8	100.0%

Table 14.3 Gymnastics Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	4	50.0%
Competition	4	50.0%
TOTAL	8	100.0%

Table 14.4 Gymnastics Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 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	0	0.0%
Middle of Competition	1	25.0%
End of Competition	3	75.0%
COMPETITION TOTAL	4	100.0%

Table 14.5 Gymnastics Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	8	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	8	100.0%

Table 14.6 Gymnastics Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Gymnastics Mat	3	37.5%
Gymnastics Floor	2	25.0%
Carpeted Floor	1	12.5%
Wrestling-Type Mat	1	12.5%
Trampoline	1	12.5%
TOTAL	8	100.0%

Table 14.7 Person to Object Gymnastics Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Gymnastics Mat	3	37.5%
Gymnastics Floor	2	25.0%
Carpeted Floor	1	12.5%
Wrestling-Type Mat	1	12.5%
Trampoline	1	12.5%
TOTAL	8	100.0%

Table 14.8 Gymnastics Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	2	25.0%
Coach	5	62.5%
Competitive 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	12.5%
TOTAL	8	100.0%

Table 14.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	7	87.5%
Did Not Receive Authorization to Return by the End of Season	1	12.5%
Follow-Up Report Not Completed	0	0.0%
TOTAL	8	100.0%

Table 14.10 Gymnastics Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	4	50.0%
DO	3	37.5%
PA	0	0.0%
NP	0	0.0%
Medical Examiner Data Not Available*	1	12.5%
TOTAL	8	100.0%

Table 14.11 Gymnastics Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	5	62.5%
Conditions to Return	2	25.0%
Return to Activity Data Not Available*	1	12.5%
TOTAL	8	100.0%

Table 14.12 Gymnastics Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	4	50.0%
1-2 Days	2	25.0%
3-6 Days	1	12.5%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed School Data Not Available*	1	12.5%
TOTAL	8	100.0%

Table 14.13 Gymnastics Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	4	50.0%
11-15 Days	0	0.0%
16-20 Days	1	12.5%
≥21 Days	2	25.0%
Data Not Available**	1	12.5%
TOTAL	8	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**

XV. Ice Hockey Head Injury Reports

Table 15.1 Head Injury Prevalence Rate for Ice Hockey, MHSAA Head Injury Reporting System, 2015-16 School Year

Ice Hockey Participation	3,352
All Reported Ice Hockey Head Injuries	126
Ice Hockey Head Injury Prevalence Rate	3.8%
Ice Hockey Head Injury Prevalence Rate Per 1,000 Participants	38

Table 15.2 Ice Hockey Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	117	92.9%
Junior Varsity	9	7.1%
Freshman	0	0.0%
TOTAL	126	100.0%

Table 15.3 Ice Hockey Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	17	13.5%
Competition	109	86.5%
TOTAL	126	100.0%

Table 15.4 Ice Hockey Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	0	0.0%
Middle of Practice	8	47.1%
End of Practice	9	52.9%
PRACTICE TOTAL	17	100.0%
Start of Competition	19	17.4%
Middle of Competition	63	57.8%
End of Competition	27	24.8%
COMPETITION TOTAL	109	100.0%

Table 15.5 Ice Hockey Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	61	48.4%
Person to Object Contact (e.g. wall, ground, equipment)	53	42.1%
Uncertain as to the Cause of the Event	12	9.5%
TOTAL	126	100.0%

Table 15.6 Ice Hockey Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Ice	120	95.2%
Ice Rink Boards	3	2.4%
Indoor Tile Type Floor	1	0.8%
Unknown/Indiscernible Surface Data	2	1.6%
TOTAL	126	100.0%

Table 15.7 Person to Object Ice Hockey Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Ice	48	92.3%
Ice Rink Boards	3	5.8%
Indoor Tile Type Floor	1	1.9%
TOTAL	52	1.9%

Table 15.8 Ice Hockey Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	64	50.8%
Coach	28	22.2%
Competitive Emergency Personnel	0	0.0%
Other Appropriate Health Care Professional	2	1.6%
DO	0	0.0%
MD	7	5.6%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	25	19.8%
TOTAL	126	100.0%

Table 15.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	110	87.3%
Did Not Receive Authorization to Return by the end of Season	8	6.3%
Follow-Up Report Not Completed	8	6.3%
TOTAL	126	100.0%

Table 15.10 Ice Hockey Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	83	65.9%
DO	12	9.5%
PA	11	8.7%
NP	4	3.2%
Medical Examiner Data Not Available*	16	12.7%
TOTAL	126	100.0%

Table 15.11 Ice Hockey Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	79	62.7%
Conditions to Return	31	24.6%
Return to Activity Data Not Available*	16	12.7%
TOTAL	126	100.0%

Table 15.12 Ice Hockey Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	61	48.4%
1-2 Days	32	25.4%
3-6 Days	10	7.9%
7-9 Days	5	4.0%
10-20 Days	2	1.6%
≥21 Days	0	0.0%
Missed School Data Not Available*	16	12.7%
TOTAL	126	100.0%

Table 15.13 Ice Hockey Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	8	6.3%
3-5 Days	10	7.9%
6-10 Days	38	30.2%
11-15 Days	23	18.3%
16-20 Days	12	9.5%
≥21 Days	18	14.3%
Data Not Available**	17	13.5%
TOTAL	126	100.0%

8 Missing Follow Up Reports*

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

1 Data Entry Errors**

XVI. Boys Lacrosse Head Injury Reports

Table 16.1 Head Injury Prevalence Rate for Boys Lacrosse, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Lacrosse Participation	4,952
All Boys Lacrosse Head Injuries	85
Boys Lacrosse Head Injury Prevalence Rate	1.7%
Boys Lacrosse Head Injury Prevalence Rate Per 1,000 Participants	17

Table 16.2 Boys Lacrosse Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	51	60.0%
Junior Varsity	30	35.3%
Freshman	4	4.7%
TOTAL	85	100.0%

Table 16.3 Boys Lacrosse Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	14	16.5%
Competition	71	83.5%
TOTAL	85	100.0%

Table 16.4 Boys Lacrosse Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	3	21.4%
Middle of Practice	9	64.3%
End of Practice	2	14.3%
PRACTICE TOTAL	14	100.0%
Start of Competition	4	5.6%
Middle of Competition	34	47.9%
End of Competition	33	46.5%
COMPETITION TOTAL	71	100.0%

Table 16.5 Boys Lacrosse Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	50	58.8%
Person to Object Contact (e.g. wall, ground, equipment)	32	37.6%
Uncertain as to the Cause of the Event	3	3.5%
TOTAL	85	100.0%

Table 16.6 Boys Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	20	23.5%
Artificial Turf	62	72.9%
Wooden Gym Floor	1	1.2%
Unknown/Indiscernible	2	2.4%
TOTAL	85	100.0%

Table 16.7 Person to Object Boys Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	8	25.0%
Artificial Turf	22	68.8%
Wooden Gym Floor	1	3.1%
Unknown/Indiscernible	1	3.1%
TOTAL	32	100.0%

Table 16.8 Boys Lacrosse Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	51	60.0%
Coach	15	17.6%
Sideline Emergency Personnel	0	0.0%
Other Appropriate Health Care Professional	2	2.4%
DO	0	0.0%
MD	3	3.5%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	14	16.5%
TOTAL	85	100.0%

Table 16.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	65	76.5%
Did Not Receive Authorization to Return by the End of Season	17	20.0%
Follow-Up Report Not Completed	3	3.5%
TOTAL	85	100.0%

Table 16.10 Boys Lacrosse Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	47	55.3%
DO	15	17.6%
PA	3	3.5%
NP	0	0.0%
Medical Examiner Data Not Available*	20	23.5%
TOTAL	85	100.0%

Table 16.11 Boys Lacrosse Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	44	51.8%
Conditions to Return	21	24.7%
Return to Activity Data Not Available*	20	23.5%
TOTAL	85	100.0%

Table 16.12 Boys Lacrosse Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	45	52.9%
1-2 Days	16	18.8%
3-6 Days	4	4.7%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed School Data Not Available*	20	23.5%
TOTAL	85	100.0%

Table 16.13 Boys Lacrosse Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	3	3.5%
3-5 Days	4	4.7%
6-10 Days	20	23.5%
11-15 Days	17	20.0%
16-20 Days	9	10.6%
≥21 Days	11	12.9%
Data Not Available**	21	24.7%
TOTAL	85	100.0%

3 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**

XVII. Girls Lacrosse Head Injuries

Table 17.1 Head Injury Prevalence Rate for Girls Lacrosse, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Lacrosse Participation	2,775
All Girls Lacrosse Head Injuries	30
Girls Lacrosse Head Injury Prevalence Rate	1.1%
Girls Lacrosse Head Injury Prevalence Rate Per 1,000 Participants	11

Table 17.2 Girls Lacrosse Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	23	76.7%
Junior Varsity	7	23.3%
Freshman	0	0.0%
TOTAL	30	100.0%

Table 17.3 Girls Lacrosse Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	6	20.0%
Competition	24	80.0%
TOTAL	30	100.0%

Table 17.4 Girls Lacrosse Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	0	0.0%
Middle of Practice	3	50.0%
End of Practice	3	50.0%
PRACTICE TOTAL	6	100.0%
Start of Competition	5	20.8%
Middle of Competition	9	37.5%
End of Competition	10	41.7%
COMPETITION TOTAL	24	100.0%

Table 17.5 Girls Lacrosse Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	1	3.3%
Person to Object Contact (e.g. wall, ground, equipment)	27	90.0%
Uncertain as to the Cause of the Event	2	6.7%
TOTAL	30	100.0%

Table 17.6 Girls Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	11	36.7%
Artificial Turf	13	43.3%
Wooden Gym Floor	3	10.0%
Other/Indiscernible	3	10.0%
TOTAL	30	100.0%

Table 17.7 Person to Object Girls Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	9	33.3%
Artificial Turf	13	48.1%
Wooden Gym Floor	3	11.1%
Other/Indiscernible	2	7.4%
TOTAL	27	100.0%

Table 17.8 Girls Lacrosse Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	14	46.7%
Coach	6	20.0%
Sideline Emergency Personnel	1	3.3%
Other Appropriate Health Care Professional	3	10.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	6	20.0%
TOTAL	30	100.0%

Table 17.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	23	76.7%
Did Not Receive Authorization to Return by the End of Season	7	23.3%
Follow-Up Report Not Completed	0	0.0%
TOTAL	30	100.0%

Table 17.10 Girls Lacrosse Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	15	50.0%
DO	4	13.3%
PA	2	6.7%
NP	2	6.7%
Medical Examiner Data Not Available*	7	23.3%
TOTAL	30	100.0%

Table 17.11 Girls Lacrosse Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	16	53.3%
Conditions to Return	7	23.3%
Return to Activity Data Not Available*	7	23.3%
TOTAL	30	100.0%

Table 17.12 Girls Lacrosse Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	12	40.0%
1-2 Days	10	33.3%
3-6 Days	1	3.3%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed School Data Not Available*	7	23.3%
TOTAL	30	100.0%

Table 17.13 Girls Lacrosse Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	1	3.3%
3-5 Days	3	10.0%
6-10 Days	9	30.0%
11-15 Days	6	20.0%
16-20 Days	3	10.0%
≥21 Days	1	3.3%
Data Not Available**	7	23.3%
TOTAL	30	100.0%

0 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**

XVIII. Boys Skiing Head Injury Reports

Table 18.1 Head Injury Prevalence Rate for Boys Skiing, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Skiing Participation	719
All Reported Boys Skiing Head Injuries	3
Boys Skiing Head Injury Prevalence Rate	0.4%
Boys Skiing Head Injury Prevalence Rate Per 1,000 Participants	4

Table 18.2 Boys Skiing Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	2	66.7%
Junior Varsity	1	33.3%
Freshman	0	0.0%
TOTAL	3	100.0%

Table 18.3 Boys Skiing Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	3	100.0%
Competition	0	0.0%
TOTAL	3	100.0%

Table 18.4 Boys Skiing Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	1	33.3%
Middle of Practice	2	66.7%
End of Practice	0	0.0%
PRACTICE TOTAL	3	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 18.5 Boys Skiing Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	3	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	3	100.0%

Table 18.6 Boys Skiing Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Snow/Ice Covered Ground	3	100.0%
TOTAL	3	100.0%

Table 18.7 Boys Skiing Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	0	0.0%
Coach	3	100.0%
Competitive 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 18.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	3	100.0%
Did Not Receive Authorization to Return by the End of Season	0	0.0%
Follow-Up Report Not Completed	0	0.0%
TOTAL	3	100.0%

Table 18.9 Boys Skiing Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	1	33.3%
DO	0	0.0%
PA	1	33.3%
NP	1	33.3%
Medical Examiner Data Not Available*	0	0.0%
TOTAL	3	100.0%

Table 18.10 Boys Skiing Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 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 18.11 Boys Skiing Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	3	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	3	100.0%

Table 18.12 Boys Skiing Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	33.3%
11-15 Days	1	33.3%
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**

XIX. Girls Skiing Head Injury Reports

Table 19.1 Head Injury Prevalence Rate for Girls Skiing, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Skiing Participation	652
All Reported Girls Skiing Head Injuries	6
Girls Skiing Head Injury Prevalence Rate	0.9%
Girls Skiing Head Injury Prevalence Rate Per 1,000 Participants	9

Table 19.2 Girls Skiing Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	5	83.3%
Junior Varsity	1	16.7%
Freshman	0	0.0%
TOTAL	6	100.0%

Table 19.3 Girls Skiing Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	4	66.7%
Competition	2	33.3%
TOTAL	6	100.0%

Table 19.4 Girls Skiing Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	0	0.0%
Middle of Practice	2	50.0%
End of Practice	2	50.0%
PRACTICE TOTAL	4	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 19.5 Girls Skiing Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	6	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	6	100.0%

Table 19.6 Girls Skiing Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Snow/Ice Covered Ground	6	100.0%
TOTAL	6	100.0%

Table 19.7 Girls Skiing Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	0	0.0%
Coach	3	50.0%
Competitive 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	3	50.0%
TOTAL	6	100.0%

Table 19.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	5	83.3%
Did Not Receive Authorization to Return by the End of Season	1	16.7%
Follow-Up Report Not Completed	0	0.0%
TOTAL	6	100.0%

Table 19.9 Girls Skiing Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	3	50.0%
DO	1	16.7%
PA	0	0.0%
NP	1	16.7%
Medical Examiner Data Not Available*	1	16.7%
TOTAL	6	100.0%

Table 19.10 Girls Skiing Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	4	66.7%
Conditions to Return	1	16.7%
Return to Activity Data Not Available*	1	16.7%
TOTAL	6	100.0%

Table 19.11 Girls Skiing Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	3	50.0%
1-2 Days	2	33.3%
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	16.7%
TOTAL	6	100.0%

Table 19.12 Girls Skiing Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	1	16.7%
6-10 Days	2	33.3%
11-15 Days	2	33.3%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data Not Available**	1	16.7%
TOTAL	6	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**

XX. Boys Soccer Head Injury Reports

Table 20.1 Head Injury Prevalence Rate for Boys Soccer, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Soccer Participation	14,574
All Reported Boys Soccer Head Injuries	269
Boys Soccer Head Injury Prevalence Rate	1.8%
Boys Soccer Head Injury Prevalence Rate Per 1,000 Participants	18

Table 20.2 Boys Soccer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	194	72.1%
Junior Varsity	64	23.8%
Freshman	11	4.1%
TOTAL	269	100.0%

Table 20.3 Boys Soccer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	43	16.0%
Competition	226	84.0%
TOTAL	269	100.0%

Table 20.4 Boys Soccer Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	8	18.6%
Middle of Practice	17	39.5%
End of Practice	18	41.9%
PRACTICE TOTAL	43	100.0%
Start of Competition	21	9.3%
Middle of Competition	122	54.0%
End of Competition	83	36.7%
COMPETITION TOTAL	226	100.0%

Table 20.5 Boys Soccer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	149	55.4%
Person to Object Contact (e.g. wall, ground, equipment)	101	37.5%
Uncertain as to the Cause of the Event	19	7.1%
TOTAL	269	100.0%

Table 20.6 Boys Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	168	62.5%
Artificial Turf	86	32.0%
Soccer Field	5	1.9%
Rubber Weight Room Floor	1	0.4%
Other	9	3.3%
TOTAL	269	100.0%

Table 20.7 Person to Object Boys Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	60	59.4%
Artificial Turf	33	32.7%
Soccer Field	4	4.0%
Rubber Weight Room Floor	1	1.0%
Other	3	3.0%
TOTAL	101	100.0%

Table 20.8 Boys Soccer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	157	58.4%
Coach	42	15.6%
Sideline Emergency Personnel	4	1.5%
Other Appropriate Health Care Professional	3	1.1%
DO	1	0.4%
MD	12	4.5%
PA	0	0.0%
NP	0	0.0%
Athletic Director	1	0.4%
Multiple Examiners	49	18.2%
TOTAL	269	100.0%

Table 20.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	214	79.6%
Did Not Receive Authorization to Return by the End of Season	50	18.6%
Follow-Up Report Not Completed	5	1.9%
TOTAL	269	100.0%

Table 20.10 Boys Soccer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	153	56.9%
DO	40	14.9%
PA	13	4.8%
NP	8	3.0%
Medical Examiner Data Not Available*	55	20.4%
TOTAL	269	100.0%

Table 20.11 Boys Soccer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	141	52.4%
Conditions to Return	73	27.1%
Return to Activity Data Not Available*	55	20.4%
TOTAL	269	100.0%

Table 20.12 Boys Soccer Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	146	54.3%
1-2 Days	44	16.4%
3-6 Days	15	5.6%
7-9 Days	4	1.5%
10-20 Days	5	1.9%
≥21 Days	0	0.0%
Missed School Data Not Available*	55	20.4%
TOTAL	269	100.0%

Table 20.13 Boys Soccer Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	19	7.1%
3-5 Days	30	11.2%
6-10 Days	91	33.8%
11-15 Days	40	14.9%
16-20 Days	14	5.2%
≥21 Days	16	5.9%
Data Not Available**	59	21.9%
TOTAL	269	100.0%

5 Missing Follow Up Reports*

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

4 Data Entry Errors**

XXI. Girls Soccer Head Injury Reports

Table 21.1 Head Injury Prevalence Rate for Girls Soccer, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Soccer Participation	13,367
All Girls Soccer Head Injuries	406
Girls Soccer Head Injury Prevalence Rate	3.0%
Girls Soccer Head Injury Prevalence Rate Per 1,000 Participants	30

Table 21.2 Girls Soccer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	256	63.1%
Junior Varsity	136	33.5%
Freshman	14	3.4%
TOTAL	406	100.0%

Table 21.3 Girls Soccer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	57	14.0%
Competition	349	86.0%
TOTAL	406	100.0%

Table 21.4 Girls Soccer Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	5	8.8%
Middle of Practice	32	56.1%
End of Practice	20	35.1%
PRACTICE TOTAL	57	100.0%
Start of Competition	32	9.2%
Middle of Competition	195	55.9%
End of Competition	122	35.0%
COMPETITION TOTAL	349	100.0%

Table 21.5 Girls Soccer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	143	35.2%
Person to Object Contact (e.g. wall, ground, equipment)	239	58.9%
Uncertain as to the Cause of the Event	24	5.9%
TOTAL	406	100.0%

Table 21.6 Girls Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	238	58.6%
Artificial Turf	140	34.5%
Wooden Gym Floor	4	1.0%
Other/Indiscernible	24	5.9%
TOTAL	406	100.0%

Table 21.7 Person to Object Girls Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	138	57.7%
Artificial Turf	82	34.3%
Wooden Gym Floor	3	1.3%
Other/Indiscernible	16	6.7%
TOTAL	239	100.0%

Table 21.8 Girls Soccer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	239	58.9%
Coach	82	20.2%
Sideline Emergency Personnel	4	1.0%
Other Appropriate Health Care Professional	2	0.5%
DO	1	0.2%
MD	12	3.0%
PA	1	0.2%
NP	1	0.2%
Athletic Director	8	2.0%
Multiple Examiners	56	13.8%
TOTAL	406	100.0%

Table 21.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	318	78.3%
Did Not Receive Authorization to Return by the End of Season	68	16.7%
Follow-Up Report Not Completed	20	4.9%
TOTAL	406	100.0%

Table 21.10 Girls Soccer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	216	53.2%
DO	59	14.5%
PA	25	6.2%
NP	18	4.4%
Medical Examiner Data Not Available*	88	21.7%
TOTAL	406	100.0%

Table 21.11 Girls Soccer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	236	58.1%
Conditions to Return	82	20.2%
Return to Activity Data Not Available*	88	21.7%
TOTAL	406	100.0%

Table 21.12 Girls Soccer Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	182	44.8%
1-2 Days	98	24.1%
3-6 Days	31	7.6%
7-9 Days	2	0.5%
10-20 Days	4	1.0%
≥21 Days	1	0.2%
Missed School Data Not Available*	88	21.7%
TOTAL	406	100.0%

Table 21.13 Girls Soccer Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	16	3.9%
3-5 Days	28	6.9%
6-10 Days	118	29.1%
11-15 Days	84	20.7%
16-20 Days	33	8.1%
≥21 Days	37	9.1%
Data Not Available**	90	22.2%
TOTAL	406	100.0%

20 Missing Follow Up Reports*

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

2 Data Entry Errors**

XXII. Softball Head Injury Reports

Table 22.1 Head Injury Prevalence Rate for Softball, MHSAA Head Injury Reporting System, 2015-16 School Year

Softball Participation	13,788
All Softball Head Injuries	147
Softball Head Injury Prevalence Rate (reported head injuries/total participants)	1.1%
Softball Head Injury Prevalence Rate Per 1,000 Participants	11

Table 22.2 Softball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	66	44.9%
Junior Varsity	77	52.4%
Freshman	4	2.7%
TOTAL	147	100.0%

Table 22.3 Softball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	48	32.7%
Competition	99	67.3%
TOTAL	147	100.0%

Table 22.4 Softball Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	8	16.7%
Middle of Practice	28	58.3%
End of Practice	12	25.0%
PRACTICE TOTAL	48	100.0%
Start of Competition	24	24.2%
Middle of Competition	55	55.6%
End of Competition	20	20.2%
COMPETITION TOTAL	99	100.0%

Table 22.5 Softball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	35	23.8%
Person to Object Contact (e.g. wall, ground, equipment)	111	75.5%
Uncertain as to the Cause of the Event	1	0.7%
TOTAL	147	100.0%

Table 22.6 Softball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	44	29.9%
Dirt Infield	36	24.5%
Softball Field	39	26.5%
Wooden Gym Floor	9	6.1%
Other/Indiscernible	19	12.9%
TOTAL	147	100.0%

Table 22.7 Person to Object Softball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Natural Grass	37	33.3%
Dirt Infield	26	23.4%
Softball Field	25	22.5%
Wooden Gym Floor	9	8.1%
Other/Indiscernible	14	12.6%
TOTAL	111	100.0%

Table 22.8 Softball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	62	42.2%
Coach	46	31.3%
Sideline Emergency Personnel	2	1.4%
Other Appropriate Health Care Professional	0	0.0%
DO	1	0.7%
MD	5	3.4%
PA	1	0.7%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	30	20.4%
TOTAL	147	100.0%

Table 22.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	108	73.5%
Did Not Receive Authorization to Return by the End of Season	31	21.1%
Follow-Up Report Not Completed	8	5.4%
TOTAL	147	100.0%

Table 22.10 Softball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	79	53.7%
DO	14	9.5%
PA	9	6.1%
NP	6	4.1%
Medical Examiner Data Not Available*	39	26.5%
TOTAL	147	100.0%

Table 22.11 Softball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	84	57.1%
Conditions to Return	24	16.3%
Return to Activity Data Not Available*	39	26.5%
TOTAL	147	100.0%

Table 22.12 Softball Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year|

	n	%
0 Days	60	40.8%
1-2 Days	36	24.5%
3-6 Days	8	5.4%
7-9 Days	4	2.7%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed School Data Not Available*	39	26.5%
TOTAL	147	100.0%

Table 22.13 Softball Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	2	1.4%
3-5 Days	17	11.6%
6-10 Days	43	29.3%
11-15 Days	21	14.3%
16-20 Days	9	6.1%
≥21 Days	14	9.5%
Data Not Available**	41	27.9%
TOTAL	147	100.0%

8 Missing Follow Up Reports*

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

2 Data Entry Errors**

**XXIII. Boys Swimming & Diving
Head Injury Reports**

Table 23.1 Head Injury Prevalence Rate for Boys Swimming & Diving, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Swimming & Diving Participation	4,732
All Reported Boys Swimming & Diving Head Injuries	14
Boys Swimming & Diving Head Injury Prevalence Rate	0.3%
Boys Swimming & Diving Head Injury Prevalence Rate Per 1000 Participants	3

Table 23.2 Boys Swimming & Diving Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	13	92.9%
Junior Varsity	1	7.1%
Freshman	0	0.0%
TOTAL	14	100.0%

Table 23.3 Boys Swimming & Diving Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	12	85.7%
Competition	2	14.3%
TOTAL	14	100.0%

Table 23.4 Boys Swimming & Diving Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	3	25.0%
Middle of Practice	7	58.3%
End of Practice	2	16.7%
PRACTICE TOTAL	12	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 23.5 Boys Swimming & Diving Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	5	35.7%
Person to Object Contact (e.g. wall, ground, equipment)	9	64.3%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	14	100.0%

Table 23.6 Boys Swimming & Diving Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Pool	8	57.1%
Pool Wall	1	7.1%
Diving Board	2	14.3%
Water	2	14.3%
Tile Floor	1	7.1%
TOTAL	14	100.0%

Table 23.7 Boys Swimming & Diving Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	6	42.9%
Coach	2	14.3%
Sideline Emergency Personnel	1	7.1%
Other Appropriate Health Care Professional	1	7.1%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	4	28.6%
TOTAL	14	100.0%

Table 23.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	11	78.6%
Did Not Receive Authorization to Return by the End of Season	3	21.4%
Follow-Up Report Not Completed	0	0.0%
TOTAL	14	100.0%

Table 23.9 Boys Swimming & Diving Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	9	64.3%
DO	2	14.3%
PA	0	0.0%
NP	0	0.0%
Medical Examiner Data Not Available**	3	21.4%
TOTAL	14	100.0%

Table 23.10 Boys Swimming & Diving Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	10	71.4%
Conditions to Return	1	7.1%
Return to Activity Data Not Available**	3	21.4%
TOTAL	14	100.0%

Table 23.11 Boys Swimming & Diving Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	6	42.9%
1-2 Days	3	21.4%
3-6 Days	1	7.1%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	1	7.1%
Missed School Data Not Available**	3	21.4%
TOTAL	14	100.0%

Table 23.12 Boys Swimming & Diving Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	1	7.1%
3-5 Days	2	14.3%
6-10 Days	5	35.7%
11-15 Days	1	7.1%
16-20 Days	0	0.0%
≥21 Days	2	14.3%
Data Not Available***	3	21.4%
TOTAL	14	100.0%

0 Missing Follow Up Reports*

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

0 Data Entry Errors**

XXIV. Girls Swimming & Diving Head Injury Reports

Table 24.1 Head Injury Prevalence Rate for Girls Swimming & Diving, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Swimming Participation	5,378
All Reported Girls Swimming Head Injuries	31
Girls Swimming Head Injury Prevalence Rate	0.6%
Girls Swimming Head Injury Prevalence Rate Per 1,000 Participants	6

Table 24.2 Girls Swimming & Diving Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	30	96.8%
Junior Varsity	1	3.2%
Freshman	0	0.0%
TOTAL	31	100.0%

Table 24.3 Girls Swimming & Diving Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	24	77.4%
Competition	7	22.6%
TOTAL	31	100.0%

Table 24.4 Girls Swimming & Diving Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	5	20.8%
Middle of Practice	15	62.5%
End of Practice	4	16.7%
PRACTICE TOTAL	24	100.0%
Start of Competition	3	42.9%
Middle of Competition	1	14.3%
End of Competition	3	42.9%
COMPETITION TOTAL	7	100.0%

Table 24.5 Girls Swimming & Diving Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	9	29.0%
Person to Object Contact (e.g. wall, ground, equipment)	19	61.3%
Uncertain as to the Cause of the Event	3	9.7%
TOTAL	31	100.0%

Table 24.6 Girls Swimming & Diving Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Pool	11	35.5%
Pool Wall	3	9.7%
Pool Deck	1	3.2%
Water	6	19.4%
Diving Board	1	3.2%
Other	9	29.0%
TOTAL	31	100.0%

Table 24.7 Girls Swimming & Diving Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	11	35.5%
Coach	7	22.6%
Sideline Emergency Personnel	0	0.0%
Other Appropriate Health Care Professional	0	0.0%
DO	0	0.0%
MD	5	16.1%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	8	25.8%
TOTAL	31	100.0%

Table 24.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	24	77.4%
Did Not Receive Authorization to Return by the End of Season	7	22.6%
Follow-Up Report Not Completed	0	0.0%
TOTAL	31	100.0%

Table 24.9 Girls Swimming & Diving Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	16	51.6%
DO	4	12.9%
PA	1	3.2%
NP	3	9.7%
Medical Examiner Data Not Available*	7	22.6%
TOTAL	31	100.0%

Table 24.10 Girls Swimming & Diving Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	15	48.4%
Conditions to Return	9	29.0%
Return to Activity Data Not Available*	7	22.6%
TOTAL	31	100.0%

Table 24.11 Girls Swimming & Diving Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	24	77.4%
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*	7	22.6%
TOTAL	31	100.0%

Table 24.12 Girls Swimming & Diving Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	1	3.2%
3-5 Days	2	6.5%
6-10 Days	9	29.0%
11-15 Days	5	16.1%
16-20 Days	2	6.5%
≥21 Days	4	12.9%
Data Not Available**	8	25.8%
TOTAL	31	100.0%

0 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**

XXV. Girls Tennis Head Injury Reports

Table 25.1 Head Injury Prevalence Rate for Girls Tennis, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Tennis Participation	8,675
All Girls Tennis Head Injuries	6
Girls Tennis Head Injury Prevalence Rate	0.1%
Girls Tennis Head Injury Prevalence Rate Per 1,000 Participants	1

Table 25.2 Girls Tennis Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	2	33.3%
Junior Varsity	4	66.7%
Freshman	0	0.0%
TOTAL	6	100.0%

Table 25.3 Girls Tennis Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	2	33.3%
Competition	4	66.7%
TOTAL	6	100.0%

Table 25.4 Girls Tennis Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 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	3	75.0%
End of Competition	1	25.0%
COMPETITION TOTAL	4	100.0%

Table 25.5 Girls Tennis Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	6	100.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	6	100.0%

Table 25.6 Girls Tennis Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Tennis Court	5	83.3%
Wooden Gym Floor	1	16.7%
TOTAL	6	100.0%

Table 25.7 Girls Tennis Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	1	16.7%
Coach	3	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	2	33.3%
TOTAL	6	100.0%

Table 25.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	5	83.3%
Did Not Receive Authorization to Return by the End of Season	0	0.0%
Follow-Up Report Not Completed	1	16.7%
TOTAL	6	100.0%

Table 25.9 Girls Tennis Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	5	83.3%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical Examiner Data Not Available*	1	16.7%
TOTAL	6	100.0%

Table 25.10 Girls Tennis Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	3	50.0%
Conditions to Return	2	33.3%
Return to Activity Data Not Available*	1	16.7%
TOTAL	6	100.0%

Table 25.11 Girls Tennis Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	5	83.3%
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	16.7%
TOTAL	6	100.0%

Table 25.12 Girls Tennis Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	2	33.3%
6-10 Days	1	16.7%
11-15 Days	0	0.0%
16-20 Days	1	16.7%
≥21 Days	0	0.0%
Data Not Available**	2	33.3%
TOTAL	6	100.0%

1 Missing Follow Up Reports*

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

1 Data Entry Errors**

XXVI. Boys Track & Field Head Injury Reports

Table 26.1 Head Injury Prevalence Rate for Boys Track & Field, MHSAA Head Injury Reporting System, 2015-16 School Year

Boys Track & Field Participation	22,803
All Boys Track & Field Head Injuries	4
Boys Track & Field Head Injury Prevalence Rate	0.0%
Boys Track & Field Head Injury Prevalence Rate Per 1,000 Participants	0

Table 26.2 Boys Track & Field Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	3	75.0%
Junior Varsity	1	25.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 26.3 Boys Track & Field Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	2	50.0%
Competition	2	50.0%
TOTAL	4	100.0%

Table 26.4 Boys Track & Field Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	2	100.0%
Middle of Practice	0	0.0%
End of Practice	0	0.0%
PRACTICE TOTAL	2	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 26.5 Boys Track & Field Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	1	25.0%
Person to Object Contact (e.g. wall, ground, equipment)	3	75.0%
Uncertain as to the Cause of the Event	0	0.0%
TOTAL	4	100.0%

Table 26.6 Boys Track & Field Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Track	1	25.0%
Natural Grass	1	25.0%
Gound	1	25.0%
Cement	1	25.0%
TOTAL	4	100.0%

Table 26.7 Boys Track & Field Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	2	50.0%
Coach	1	25.0%
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 26.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	3	75.0%
Did Not Receive Authorization to Return by the End of Season	1	25.0%
Follow-Up Report Not Completed	0	0.0%
TOTAL	4	100.0%

Table 26.9 Boys Track & Field Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	3	75.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical Examiner Data Not Available*	1	25.0%
TOTAL	4	100.0%

Table 26.10 Boys Track & Field Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	3	75.0%
Conditions to Return	0	0.0%
Return to Activity Data Not Available*	1	25.0%
TOTAL	4	100.0%

Table 26.11 Boys Track & Field Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	2	50.0%
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*	1	25.0%
TOTAL	4	100.0%

Table 26.12 Boys Track & Field Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	25.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	2	50.0%
Data Not Available**	1	25.0%
TOTAL	4	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**

XXVII. Girls Track & Field Head Injury Reports

Table 27.1 Head Injury Prevalence Rate for Girls Track & Field, MHSAA Head Injury Reporting System, 2015-16 School Year

Girls Track & Field Participation	16,611
All Girls Track & Field Head Injuries	22
Girls Track & Field Head Injury Prevalence Rate	0.1%
Girls Track & Field Head Injury Prevalence Rate Per 1,000 Participants	1

Table 27.2 Girls Track & Field Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	18	81.8%
Junior Varsity	4	18.2%
Freshman	0	0.0%
TOTAL	22	100.0%

Table 27.3 Girls Track & Field Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	14	63.6%
Competition	8	36.4%
TOTAL	22	100.0%

Table 27.4 Girls Track & Field Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	8	57.1%
Middle of Practice	3	21.4%
End of Practice	3	21.4%
PRACTICE TOTAL	14	100.0%
Start of Competition	2	25.0%
Middle of Competition	6	75.0%
End of Competition	0	0.0%
COMPETITION TOTAL	8	100.0%

Table 27.5 Girls Track & Field Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	0	0.0%
Person to Object Contact (e.g. wall, ground, equipment)	21	95.5%
Uncertain as to the Cause of the Event	1	4.5%
TOTAL	22	100.0%

Table 27.6 Girls Track & Field Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Track	15	68.2%
Wooden Gym Floor	3	13.6%
Artificial Turf	2	9.1%
Natural Grass	1	4.5%
Other	1	4.5%
TOTAL	22	100.0%

Table 27.7 Girls Track & Field Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	7	31.8%
Coach	8	36.4%
Sideline Emergency Personnel	1	4.5%
Other Appropriate Health Care Professional	0	0.0%
DO	1	4.5%
MD	1	4.5%
PA	0	0.0%
NP	0	0.0%
Athletic Director	0	0.0%
Multiple Examiners	4	18.2%
TOTAL	22	100.0%

Table 27.8 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	16	72.7%
Did Not Receive Authorization to Return by the End of Season	4	18.2%
Follow-Up Report Not Completed	2	9.1%
TOTAL	22	100.0%

Table 27.9 Girls Track & Field Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	11	50.0%
DO	4	18.2%
PA	0	0.0%
NP	1	4.5%
Medical Examiner Data Not Available*	6	27.3%
TOTAL	22	100.0%

Table 27.10 Girls Track & Field Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	10	45.5%
Conditions to Return	6	27.3%
Return to Activity Data Not Available*	6	27.3%
TOTAL	22	100.0%

Table 27.11 Girls Track & Field Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	9	40.9%
1-2 Days	2	9.1%
3-6 Days	5	22.7%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed School Data Not Available*	6	27.3%
TOTAL	22	100.0%

Table 27.12 Girls Track & Field Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	4	18.2%
11-15 Days	3	13.6%
16-20 Days	3	13.6%
≥21 Days	6	27.3%
Data Not Available**	6	27.3%
TOTAL	22	100.0%

2 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**

XXVIII. Volleyball Head Injury Reports

Table 28.1 Head Injury Prevalence Rate for Volleyball, MHSAA Head Injury Reporting System, 2015-16 School Year

Volleyball Participation	19,395
All Reported Volleyball Head Injuries	211
Volleyball Head Injury Prevalence Rate	1.1%
Volleyball Head Injury Prevalence Rate Per 1,000 Participants	11

Table 28.2 Volleyball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	95	45.0%
Junior Varsity	70	33.2%
Freshman	46	21.8%
TOTAL	211	100.0%

Table 28.3 Volleyball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	96	45.5%
Competition	115	54.5%
TOTAL	211	100.0%

Table 28.4 Volleyball Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	17	17.7%
Middle of Practice	42	43.8%
End of Practice	37	38.5%
PRACTICE TOTAL	96	100.0%
Start of Competition	26	22.6%
Middle of Competition	57	49.6%
End of Competition	32	27.8%
COMPETITION TOTAL	115	100.0%

Table 28.5 Volleyball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	30	14.2%
Person to Object Contact (e.g. wall, ground, equipment)	178	84.4%
Uncertain as to the Cause of the Event	3	1.4%
TOTAL	211	100.0%

Table 28.6 Volleyball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wooden Gym Floor	164	77.7%
Volleyball Court	10	4.7%
Rubberized Gym Floor	1	0.5%
Other	36	17.1%
TOTAL	211	100.0%

Table 28.7 Person to Object Volleyball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wooded Gym Floor	139	78.1%
Volleyball Court	7	3.9%
Rubberized Gym Floor	1	0.6%
Other	31	17.4%
TOTAL	178	100.0%

Table 28.8 Volleyball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	92	43.6%
Coach	57	27.0%
Sideline Emergency Personnel	1	0.5%
Other Appropriate Health Care Professional	6	2.8%
DO	1	0.5%
MD	2	0.9%
PA	0	0.0%
NP	0	0.0%
Athletic Director	2	0.9%
Multiple Examiners	50	23.7%
TOTAL	211	100.0%

Table 28.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	175	82.9%
Did Not Receive Authorization to Return by the End of Season	35	16.6%
Follow-Up Report Not Completed	1	0.5%
TOTAL	211	100.0%

Table 28.10 Volleyball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	110	52.1%
DO	35	16.6%
PA	16	7.6%
NP	14	6.6%
Medical Examiner Data Not Available*	36	17.1%
TOTAL	211	100.0%

Table 28.11 Volleyball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	122	57.8%
Conditions to Return	53	25.1%
Return to Activity Data Not Available*	36	17.1%
TOTAL	211	100.0%

Table 28.12 Volleyball Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	100	47.4%
1-2 Days	51	24.2%
3-6 Days	15	7.1%
7-9 Days	2	0.9%
10-20 Days	6	2.8%
≥21 Days	1	0.5%
Missed School Data Not Available*	36	17.1%
TOTAL	211	100.0%

Table 28.13 Volleyball Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	12	5.7%
3-5 Days	30	14.2%
6-10 Days	54	25.6%
11-15 Days	36	17.1%
16-20 Days	19	9.0%
≥21 Days	19	9.0%
Data Not Available**	41	19.4%
TOTAL	211	100.0%

1 Missing Follow Up Reports*

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

5 Data Entry Errors**

XXIX. Wrestling Head Injury Reports

Table 29.1 Head Injury Prevalence Rate for Wrestling, MHSAA Head Injury Reporting System, 2015-16 School Year

Wrestling Participation	9,601
All Reported Wrestling Head Injuries	245
Wrestling Head Injury Prevalence Rate (reported head injuries/total participants)	2.6%
Wrestling Head Injury Prevalence Rate Per 1,000 Participants	26

Table 29.2 Wrestling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Varsity	188	76.7%
Junior Varsity	50	20.4%
Freshman	7	2.9%
TOTAL	245	100.0%

Table 29.3 Wrestling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Practice	118	48.2%
Competition	127	51.8%
TOTAL	245	100.0%

Table 29.4 Wrestling Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Start of Practice	5	4.2%
Middle of Practice	66	55.9%
End of Practice	47	39.8%
PRACTICE TOTAL	118	100.0%
Start of Competition	17	13.4%
Middle of Competition	69	54.3%
End of Competition	41	32.3%
COMPETITION TOTAL	127	100.0%

Table 29.5 Wrestling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Person to Person Contact	89	36.3%
Person to Object Contact (e.g. wall, ground, equipment)	139	56.7%
Uncertain as to the Cause of the Event	17	6.9%
TOTAL	245	100.0%

Table 29.6 Wrestling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wrestling-Type Mat	237	96.7%
Wooden Gym Floor	2	0.8%
Wall	2	0.8%
Bleacher	1	0.4%
Unknown/Indiscernible Surface Data	3	1.2%
TOTAL	245	100.0%

Table 29.7 Person to Object Wrestling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Wrestling-Type Mat	133	95.7%
Wooden Gym Floor	2	1.4%
Wall	2	1.4%
Bleacher	1	0.7%
Unknown/Indiscernible Surface Data	1	0.7%
TOTAL	139	100.0%

Table 29.8 Wrestling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Athletic Trainer	146	59.6%
Coach	29	11.8%
Sideline Emergency Personnel	2	0.8%
Other Appropriate Health Care Professional	5	2.0%
DO	0	0.0%
MD	7	2.9%
PA	0	0.0%
NP	2	0.8%
Athletic Director	3	1.2%
Multiple Examiners	51	20.8%
TOTAL	245	100.0%

Table 29.9 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, 2015-16 School Year

	n	%
Received Written Authorization to Return by the End of Season	192	78.4%
Did Not Receive Authorization to Return by the End of Season	50	20.4%
Follow-Up Report Not Completed	3	1.2%
TOTAL	245	100.0%

Table 29.10 Wrestling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
MD	125	51.0%
DO	39	15.9%
PA	12	4.9%
NP	16	6.5%
Medical Examiner Data Not Available*	53	21.6%
TOTAL	245	100.0%

Table 29.11 Wrestling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
Unconditional Return	148	60.4%
Conditions to Return	44	18.0%
Return to Activity Data Not Available*	53	21.6%
TOTAL	245	100.0%

Table 29.12 Wrestling Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
0 Days	135	55.1%
1-2 Days	46	18.8%
3-6 Days	9	3.7%
7-9 Days	1	0.4%
10-20 Days	1	0.4%
≥21 Days	0	0.0%
Missed School Data Not Available*	53	21.6%
TOTAL	245	100.0%

Table 29.13 Wrestling Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2015-16 School Year

	n	%
1-2 Days	7	2.9%
3-5 Days	11	4.5%
6-10 Days	60	24.5%
11-15 Days	48	19.6%
16-20 Days	23	9.4%
≥21 Days	42	17.1%
Data Not Available**	54	22.0%
TOTAL	245	100.0%

3 Missing Follow Up Reports*

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

1 Data Entry Errors**

XXX. Executive Summary

30.1 Introduction

In May of 2015, the Representative Council of the Michigan High School Athletic Association approved three more initiatives to the long history of efforts by MHSAA's member schools to promote and protect participant health:

- Two sideline concussion detection pilot programs were approved for 2015-16, and they continue in 2016-17.
- Concussion care “gap” insurance was provided by the MHSAA without cost to member schools and their families, covering practices and competition for all levels of all MHSAA sports, 7th through 12th grades. The coverage extends to 6th-graders in 2016-17.
- Mandated concussion reporting was approved. All MHSAA member high schools must report concussions that occur at practices and during competition in all levels of all MHSAA sports.

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, and the thrust of the preliminary reports after the fall, winter and spring seasons of 2015-16, as well as this more comprehensive report, is to identify the significant broad themes revealed during the first year 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.

The sideline concussion detection pilot programs, the concussion care “gap” insurance and the mandated concussion reporting combine to provide more information than ever before about the frequency and severity of head injuries in school-sponsored competitive athletics.

This Executive Summary is based on 4,452 confirmed Head Injury Reports submitted for MHSAA supported sports sponsored and conducted at the MHSAA's 755 member high schools during the 2015-16 school year.

30.2 Ranking

SPORT	HEAD INJURY REPORTS	HEAD INJURIES PER 1,000 PARTICIPANTS	HEAD INJURIES PER 1,000 PARTICIPANTS RATE RANK OUT OF ALL MHSAA SPORTS
Football - 11 player	1,907	49	1
Ice Hockey	126	38	2
Football 8-player	32	34	3
Girls Soccer	406	30	4
Girls Basketball	454	29	5
Wrestling	245	26	6
Boys Soccer	269	18	7
Competitive Cheer	122	17	8
Boys Lacrosse	85	17	9
Gymnastics	8	13	10
Boys Basketball	247	11	11
Volleyball	211	11	12
Girls Lacrosse	30	11	13
Softball	147	11	14
Girls Skiing	6	9	15
Girls Swimming & Diving	31	6	16
Boys Skiing	3	4	17
Baseball	65	4	18
Boys Swimming & Diving	14	3	19
Girls Track & Field	22	1	20
Girls Tennis	6	1	21
Girls Golf	2	1	22
Girls Cross Country	4	0	23
Boys Cross Country	4	0	24
Boys Bowling	1	0	25
Boys Track & Field	4	0	26
Boys Golf	1	0	27
Girls Bowling	0	0	28
Boys Tennis	0	0	28

30.3 Key Observations of Year #1

- A. In sports sponsored under the same rules for both genders, significantly more concussions are reported for females than males at the high school level. For example:

Girls Soccer – 30 per 1,000 (Ranks 4th)

Boys Soccer – 18 per 1,000 (Ranks 7th)

Girls Basketball – 29 per 1,000 (Ranks 5th)

Boys Basketball – 11 per 1,000 (Ranks 11th)

- B. In girls softball, concussions were reported at the rate of 11 per thousand participants, while in baseball, concussions were reported at the rate of 4 per thousand.

Questions for Further Research –

1. Is the difference in concussions reported by girls and boys an accurate indicator of the difference in concussions sustained by girls and boys?
 - If so, why is this so, and what response is suggested for those who prepare the playing rules for girls and boys, including equipment requirements?
 - If so, or if not, what responses are suggested for those who coach girls and boys and who design and deliver the coaches education programs for girls and boys?
2. Is the difference in concussions reported by girls and boys a reflection of over-reporting by females or under-reporting by males?
 - What responses do the answers to that question require of those who coach girls and boys and of those who design and deliver coaches education programs for girls and boys?

30.4 Emerging Inquiries for Year #2

- A. Eleven-player football and eight-player football rank first and third, respectively, among all MHSAA supported sports with respect to incidence of concussions.

Thirty-five percent of concussions in 11-player football and only 15.6 percent of concussions in 8-player football occurred during practice during the 2015 season, the second season when MHSAA policies reducing contact during practices were in effect.

1. Will the third season of reduced contact during practice, accompanied by more awareness and use of non-contact methods of teaching blocking and tackling, lead to lower occurrences of concussions in football and an even lower percentage of football concussions occurring during practice sessions?
- B. Ice hockey ranks second in the incidence of concussions, with 38 per 1,000 participants. More than 95 percent result from contact between the head and the ice surface, and 86.5 percent occur during games.
1. What can the playing rules makers do to reduce falls during competition?

30.5 Next Steps

The 2015-16 school year was only a start; it identified some initial themes. The more important value will be realized after the 2016-17 school year, and subsequent school years, when year-over-year comparisons will be made and trends will become apparent that will demand action to further promote the welfare of participants in school-sponsored sports.

The 2016-17 school year has begun with the expectation 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.

Meanwhile, the MHSAA is inviting the great universities and health care systems of Michigan, as well as the National Federation of State High School Associations, to consider how they may help to answer the questions raised after Year #1 as well as the emerging inquiries of Year #2 and any other questions suggested by the first year's data.

Interested representatives of these entities are invited to contact:

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