

# Efficacy of a Novel Concussion Education Program for University Club Sports Athletes

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## Background

While much attention is given to varsity student athletes' health, many universities also have students who participate in club sports. At Northwestern University, the number of club sports athletes is almost 2.5 times greater than varsity student athletes (1200 vs 500 athletes, respectively). A novel department at our institution has placed emphasis on providing increased medical care to club and intramural participants.

## Objectives

- Understand the demographics and concussion experiences of our subjects
- What is the baseline level of concussion knowledge in club sport athletes?
- Does watching a brief educational video improve immediate knowledge of concussion symptoms?
- Does watching a brief educational video change attitudes about the seriousness of concussions?

## Methods



## Results

**Table 1: Patient Demographics**

	n = 498
<b>Sex</b>	
Male	272 (54.6%)
Female	226 (45.4%)
<b>Year in School</b>	
Freshman	110 (22.1%)
Sophomore	138 (27.7%)
Junior	105 (21.1%)
Senior	109 (21.9%)
5 <sup>th</sup> Year +	36 (7.2%)
Senior	
<b>Type of Sport</b>	
Contact	236 (47.4%)
Non-Contact	258 (51.8%)

**Table 2: Concussion Experience**

	n = 498
Concussion Education in High School	287 (57.6%)
Access to Athletic Trainer In High School	410 (82.3%)
Number of diagnosed concussions	84 (16.9%)
Number of concussions believed to have experienced	
High School	76 (15.2%)
College	32 (6.4%)
Total	108 (21.7%)

## Results

- Demographics were similar between consenting and non-consenting subjects.

**Table 3: Concussion Knowledge**

	n = 498	n = 498
	Pretest	Posttest
<b>Total Knowledge</b>		
Range	17-33	17-33
Mean (SD)	27.6 (3.32)	27.7 (3.59)
<b>Actual Signs and Symptoms</b>		
Range	1-8	1-8
Mean (SD)	6.88 (1.13)	7.11 (1.07)*

\*p < 0.001

- 82% of subjects answered the same or more questions correctly on the posttest from the pretest.

**Table 4: Subject Attitudes**

	n = 498	n = 498
	Pretest	Posttest
<b>Total Belief</b>		
Range	36-89	52-89
Mean (SD)	76.3 (8.1)	81.1 (6.8)*
<b>Seriousness of HA post trauma (1-7)(SD)</b>	5.8 (1.0)	6.6 (0.7)*
<b>No activity with concussion sx (1-7)(SD)</b>	6.6 (0.8)	6.8 (0.5)*
<b>Report signs and symptom to MD (1-7)(SD)</b>	6.6 (0.7)	6.8 (0.5)*

\*p < 0.001

- 92% of subjects expressed the same or a more favorable belief toward concussion post-education.

## Discussion

- To our knowledge, this is the first concussion education program reported in a university club sport population.
- Overall baseline knowledge of concussion was high, but subjects did not recognize 3 symptoms (insomnia, amnesia, and nausea) of concussion and misidentified others when they were not true symptoms.
- Only 57.6% of subjects reported concussion education in high school even though 82.3% reported having access to an athletic trainer.

## Limitations

- Educational background of our subject population may manifest as greater concussion knowledge compared to subjects at other universities.

## Future Directions

- Subjects who consented to participate in the study will take a follow-up 6 month test about concussion knowledge and beliefs.
- Further education may focus on specific knowledge deficits and concussion prevention.

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