



# Descriptive Epidemiology of Injuries in Collegiate Men's Badminton: A Five-Year Follow-up Prospective Study



Yeong-Hun Jang<sup>1</sup>, Daeho Kim<sup>2</sup>, Hwi-su Jang<sup>3</sup>, Sang-Hyup Park<sup>1</sup>, Hyun-Jun Yun<sup>1</sup>, and Jihong Park<sup>1\*</sup>

<sup>1</sup>Kyung Hee University, <sup>2</sup>Woosong University, <sup>3</sup>Korean Sport & Olympic Committee

\*Contact: [jihong.park@khu.ac.kr](mailto:jihong.park@khu.ac.kr)

## BACKGROUND & PURPOSE

- Despite the existence of injury profile in badminton is valuable, there are no data available that prospectively collected on the population of college student-athletes.
- The purpose of this study was to describe the incidence and characteristics of musculoskeletal injuries in collegiate men's badminton during the 2015 through 2019 seasons.

## METHODS

- Sixty-three collegiate male badminton players  
- 21 years; 178cm; 75 kg; athletic career: 11 years
- Athletic trainers recorded exposure and injury data during matches and practices, on event basis.  
- Injury rates per 1,000 AE and TE, time to initial injury, injured body parts and types, and injury contributing factors.

## RESULTS

Table 1. Injury rates and 95% confidence intervals by time in season and type of athlete-exposure and time-exposure.

Season Type	Activity Type	AE (n)	TE (min)	# of Injuries	Rate per 1,000 AE (95% CI)	Rate per 1,000 TE (95% CI)
Pre-season	Practice	4,436	647,950	27	6.1 (3.8, 8.4)	0.0 (0.0, 0.1)
	Scrimmage	790	114,960	8	10.1 (3.1, 17.1)	0.1 (0.0, 0.1)
	Total	5,226	762,910	35	6.7 (4.5, 8.9)	0.0 (0.0, 0.1)
In-season	Practice	11,776	2,125,830	56	4.8 (3.5, 6.0)	0.0 (0.0, 0.0)
	Scrimmage	646	90,330	3	4.6 (-0.6, 9.9)	0.03 (0.00, 0.07)
	Game	906	83,070	7	7.7 (2.0, 13.4)	0.1 (0.0, 0.1)
	Total	13,328	2,299,230	66	5.0 (3.8, 6.1)	0.0 (0.0, 0.0)
Post-season	Practice	1,097	151,650	14	12.8 (6.1, 19.4)	0.1 (0.0, 0.1)
	Scrimmage	16	960	0	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
	Total	1,113	152,610	14	12.6 (6.0, 19.2)	0.0 (0.0, 0.1)
All-season	Total	19,667	3,214,750	115	5.8 (4.8, 6.9)	0.0 (0.0, 0.0)

Table 2. Time to initial injury.

Season Type	Activity Type	Initial Injury (%)
Pre-season	Practice	14.4
	Scrimmage	46.4
	Total	19.2
In-season	Practice	11.5
	Scrimmage	26.9
	Game	51.9
	Total	13.5
Post-season	Practice	45.6
	Scrimmage	0.0
	Total	45.3
All-season	Total	16.4

Table 3. Injured body parts, types, and causes.

Body Part Injured	Injuries, No (%)			
	Practice 96 (83.4%)	Scrimmage 12 (10.4%)	Match 7 (6.0%)	Total 115 (100%)
Head/face	1 (0.9)			1 (0.9)
Shoulder/clavicle	12 (10.4)	3 (2.6)	1 (0.9)	16 (13.9)
Elbow	5 (4.3)	2 (1.7)		7 (6.1)
Wrist	7 (6.1)			7 (6.1)
Hand/finger/thumb	3 (2.6)			3 (2.6)
Lower back	11 (9.6)		2 (1.7)	13 (11.3)
Pelvis/hip	7 (6.1)	2 (1.7)	1 (0.9)	10 (8.7)
Groin	2 (1.7)			2 (1.7)
Thigh	2 (1.7)		1 (0.9)	3 (2.6)
Lower leg	3 (2.6)	1 (0.9)		4 (3.5)
Knee	14 (12.2)			14 (12.2)
Ankle	21 (18.3)	3 (2.6)	1 (0.9)	25 (21.7)
Foot/toe	8 (7.0)	1 (0.9)	1 (0.9)	10 (8.7)
Injury Type				
Fx and bone stress	5 (4.3)			5 (4.3)
Joint and ligament	33 (28.7)	3 (2.6)	1 (0.9)	37 (32.2)
Muscle and tendon	48 (41.7)	7 (6.1)	5 (4.3)	60 (52.2)
Contusions	4 (3.5)			4 (3.5)
Skin lesions	4 (3.5)	2 (1.7)	1 (0.9)	7 (6.1)
Other injuries	2 (1.7)			2 (1.7)
Injury Cause				
Overuse	46 (40.0)	8 (7.0)	3 (2.6)	57 (49.6)
Non-contact	31 (27.0)	2 (1.7)	3 (2.6)	36 (31.3)
Contact	12 (10.4)	1 (0.9)	1 (0.9)	14 (12.2)
Acute	3 (2.6)			3 (2.6)
Recurrence	3 (2.6)	1 (0.9)		4 (3.5)
Other	1 (0.9)			1 (0.9)

## CONCLUSION

- Provided information on musculoskeletal injury can be used to establish and implement injury prevention strategies.
- While overuse was the most common contributing factor, ankle sprains were the most frequent single injury.