

**PREVALENCE OF BACK PAIN IN SEVEN SPORTS BASED ON SELF-REPORTING  
 BY A SAMPLE OF 2268, 8-to-18 YEAR OLD ADOLESCENT ATHLETES**

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**INTRODUCTION**

Pediatric back pain is an important problem for at least two reasons. First, it may restrict activity [e.g. 1]. Second, it has been associated with back pain later in life [e.g. 2]. This study is aimed at identifying back pain prevalence in youngsters, both by gender and by sport. This information may be helpful in the development of preventative measures.

**METHODS**

Data from the study of Wojtys, et al. [3] were used for this post-hoc analysis. That study was originally designed to investigate the relation between athletic training and thoracic kyphosis angle. Part of the original data were collected using written survey instruments that were completed by each of the nearly 2300 adolescent athlete participants.

The original survey instruments included questions regarding general health and injury history, sport participation, and the presence of back pain. Those subjects who experienced back pain were asked to identify which area of the spine was involved: cervical, cervico-thoracic, thoracic, thoracolumbar, or lumbar, or combinations thereof.

Back pain prevalence was then calculated with subjects divided by gender and by primary sport. The primary sports of volleyball, wrestling, swimming, football, gymnastics, and ice hockey were grouped according to the gender predominance of the participants.

**RESULTS AND DISCUSSION**

There were 2268 respondents to the backache question--406 females [mean age 13.8 (± 2.3) years] and 1862 males [mean age 14.8 (± 2.0) years]. The overall prevalence of pain in one or more spine areas was about the same for both genders (females: 27.3%; males: 27.9%).

Table 1 lists back pain prevalence by spine region for each of seven sports. Of these sports, only male athletes reported having cervical pain (<1.5%), while more female swimmers reported cervicothoracic pain (1.8%). Male ice hockey players reported having the most thoracic pain (2.7%). Thoracolumbar pain had a prevalence of at least twice that of thoracic pain in female volleyball players (5.8%), male swimmers (5.7%), and male ice hockey players (5.3%). Finally, the prevalence of lumbar pain was the largest for each sport, most notably in female gymnasts (about 37%) and male football players (about 29%).

**CONCLUSIONS**

Of five spine regions, lumbar pain was the most prevalent, as reported by our sample of 2268 adolescent athletes, ages 8 to 18 years. This finding holds true for participants of female volleyball, swimming, and gymnastics, as well as male wrestling, swimming, football, and ice hockey. These findings should be considered by those involved in designing training programs for adolescent athletes.

**REFERENCES**

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**Table 1:** Prevalence of Back Pain by Spine Region and Sport (divided by Gender Predominance). *s.d.* = standard deviation; *C-T* = Cervicothoracic; *T-L* = Thoracolumbar. Note the prevalence of lumbar pain in gymnasts and football players.

Sport	n	Mean Age (yrs.)	(s.d.)	No Pain	Cervical	C-T	Thoracic	T-L	Lumbar
<i>Female</i>									
Volleyball	52	14.4	1.5	69.2	.	.	1.9	5.8	9.6
Swimming	217	13.3	2.0	76.5	.	1.8	0.5	1.8	15.2
Gymnastics	35	12.8	2.4	57.1	.	.	.	2.9	37.1
<i>Male</i>									
Wrestling	951	15.0	1.5	71.1	1.0	1.1	1.0	3.1	20.6
Swimming	175	13.9	2.2	76.6	0.6	.	1.1	5.7	14.9
Football	391	16.1	1.1	62.2	0.3	1.3	0.5	2.8	28.9
Ice Hockey	188	13.3	2.1	77.3	.	0.5	2.7	5.3	13.3