

# The Equestrian as an Athlete: A View into Injuries and Incidence Rates

Michael L. Pilato M.S.A.T.,<sup>C1</sup>, Seth Shifrin M.D.<sup>1</sup> and Doris Bixby-Hammett M.D.<sup>2</sup>  
<sup>1</sup>Charles Cole Memorial Hospital, Coudersport Pa. <sup>2</sup>Emeritus EMSA

## Introduction

For this paper, the authors took a unique view of attempting to describe the rider as an athlete in the same way athletes in other sports are described. They asked two questions: "What do we know about athletes in other mainstream sports, but do not know about equestrian athletes? What information would be of most benefit to help medical professionals provide the equestrian athlete the care and advice in line with what athletes in other main stream sports receive?"

Research detailing the type, frequency and severity of equestrian injuries can be found in the literature (1,7,11,13). However, they do not lend insight into the effects of these injuries on the athlete or how participation is effected, from the perspective of the equestrian as an athlete. To begin to answer the above questions, two common areas of injury were selected, the shoulder and (cervical) spine (14,17,18,22).

## Methods

Our sample was composed of 57 riders aged 11-59. Thirty years of age is used to differentiate between "old" and "young" athletes. While thirty is not chronologically "old", it is the age when physiological changes, as they relate to maintaining performance and managing injury must be considered in terms of continued participation (23). The data tool was separated into two parts. The results of part one are presented here. The data gathered in part two is beyond the scope of the newsletter. Tables I-V provide a general description of the populations represented.

## Shoulder

Shoulder pain from rotator cuff disorders (which includes the scapula) and shoulder joint arthritis is reported to account for approximately six to ten percent of all shoulder pain (8,12,14). We did not perform exams to specifically evaluate for the above conditions and report only our general findings.

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Table I.

Discipline*	Age >30	Age <29	% Age >30	% Age <29
H-J	11	23	55.00	62.16
Team Penn	8	3	40.00	8.11
W. Games	7	8	35.00	21.62
Dressage	1	20	5.00	54.05
X-C	2	1	10.00	2.70
Eventing	4	6	20.00	16.22
Other	11	5	55.00	13.51

\* Person could indicate more than one discipline

Table II

Yrs of Participation:	Age >30	Age <29	% Age >30	% Age <29
0	0	0	0.00	0.00
1-3	0	6	0.00	16.22
4-6	3	7	15.00	18.92
7-10	5	9	25.00	24.32
11-14	1	9	5.00	24.32
15-18	3	5	15.00	13.51
19-21	0	0	0.00	0.00
22-25	1	0	5.00	0.00
25+	7	0	35.00	0.00

\*One subject did not respond

Table III

Hr Practice/Session	Age >30	Age <29	% Age >30	% Age <29
0	0	0	0.00	0.00
1-3	17	31	85.00	83.78
4-6	3	5	15.00	13.51
7-10	0	1	0.00	2.70

\*None reported practicing more than 10 hours per week

Table IV

Hrs/Week:	Age >30	Age <29	% Age >30	% Age <29
1-3	6	12	30.00	32.43
4-6	10	15	50.00	40.54
7-10	2	6	10.00	16.22
11-14	2	1	10.00	2.70
15-18	0	2		5.41
19-21	0	0		0.0
22-25	0	1		2.70

\*No rider practiced more than 25 hours per week

Table V

Using longe line training horse in lessons.	Age >30	Age <29	% Age >30	% Age <29
0	9	15	45.00	40.54
1-3	11	19	55.00	51.35
4-6	0	3	0.00	8.11

\*None used a longe line more than 6 hours a week

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Seventy-five percent of the >30 year old riders and 51% of the <29 year old riders reported no bouts of shoulder pain lasting longer than 3 days after a fall where they did feel pain in the shoulder (table VI). In similar fashion, 60% of the >30 year old riders and 51% of the <29 year old riders (table VII) reported shoulder pain without a fall. What is unusual is the reversal of what would be the expected tendency (older athletes with more pain than younger athletes) in the next category (1-3 events) and essentially equal percentages reporting pain in the 4 to 6 bout category. The trend returns to what would be expected in the without a fall question, with 15% of the >30 year old riders and 5% of the <29 year old riders reporting pain without a fall.

Possible explanations for this include:

- Riding horses that are within the realm of their skills (in terms of preventing the fall in the first place)
- The rider who has been less fit has stopped the sport leaving the more fit riders participating
- Experience: Developed “better” falling skills and or better able to anticipate a fall and take steps to protect themselves.
- Many of the <29 year old group were collegiate equestrians. The additional care involved at that level might account for the reversal seen.
- As age is added to the amount of work required to take care of the horse, the shoulder begins to compensate through its 26 muscles. At some point there is no more room for compensation and pain begins to occur more frequently.

\*\*The number of subjects in the study and their selection is not adequate to provide positive statements, only suggest trends which can be followed in additional studies\*\*

## Back Pain

The percentage of the population seeking help for acute back pain can vary depending on the population and location of the study (2,3,10,21,25). It has been reported that of this group, 2-7% will go on

Table VI

Experienced shoulder pain lasting >3 days after a fall.

	Age >30	Age <29	% Age >30	% Age <29
0	15	19	75.00	51.35
1-3	4	16	20.00	43.24
4-6	1	2	5.00	5.41

Table VII

Experienced shoulder pain without a fall.

Number of Events	Age >30	Age <29	% Age >30	% Age <29
0	12	19	60.00	51.35
1-3	2	13	10.00	35.14
4-6	1	2	5.00	5.41
7-10	2	1	10.00	2.70
11-14	0	0	0	0
15-18	0	0	0	0
19-21	0	0	0	0
22-25	0	0	0	0
25+	3	2	15.00	5.41

Table VIII

Incidents of Lower

Back Pain:

	Age >30	Age <29	% Age >30	% Age <29
0	4	10	20.00	27.03
1-3	5	15	25.00	40.54
4-6	1	3	5.00	8.11
7-10	1	1	5.00	2.70
10(+)	1	0	5.00	0.00
Ongoing Lower Back Pain	8	8	40.00	21.62
Total Pain	16	27		
TOTAL	20	37	80.0%	73.0%

Table IX

Incidents of Neck Pain:

	Age >30	Age <29	% Age >30	% Age <29
0	6	12	30.00	30.6
1-3	8	13	40.00	36.1
4-6	0	7	0.00	19.4
7-10	0	1	0.00	2.8
10(+)	1	1	0.00	2.8
Ongoing Neck Pain	5	3	25.00	8.3
Total with Pain	14	25	70.00	69.4

to have chronic low back pain (24). Tsirikos *et al* found the incidence of spinal disease (especially whole spine, including the neck) is more common in jockeys (e.g. professionals who rode more than 5.5 hours per day) than the general population (20). This is especially true if the jockey is over 40 years old. In our groups, 80 percent of the >30 year old and 73 percent of the <29 year old reported dealing with some degree of back pain (table VIII). What is of some concern is the 40 percent of the former and 22 percent of the latter group reporting ongoing back pain. This represents at minimum, a three to five times increase over the general population. There is no doubt that being an equestrian athlete extracts a physical toll; however, if the results of the only two

studies attempting to define the physical parameters of what an equestrian athlete is (15,16) are combined with the results of this study and generalized to equestrian athletes as a group, then equestrian athletes must make time in their schedule to include at least a base line strengthening program that includes the torso stabilizers (obliques, paraspinals, etc).

## Neck Pain

The percentage of the population seeking help for neck pain can vary depending on the population and location of the study (4,5,6,9). Pain in the general population been reported in the range of 14-20 percent (5,6,9). One-third of that population will go on to develop persistent pain problems (5).

Simonetti and Tsirikos *et al* reported a higher incidence of neck pain in jockeys than a group of age-matched controls (19,20). The incidence also increased with chronological age. Our data support this finding (table IX).

In the age >30 group, 70 percent reported some degree of neck pain with 25 percent reporting ongoing neck pain. It should be noted that compensation for shoulder and or spine pain could contribute to neck pain and a strengthening program for either is useful in managing neck pain.

### Conclusion

This is the first study of equestrian injuries that has not included the traditional competition and NEISS data.

While it did provide some answers as to the extent of injuries in three areas that can significantly impact riding participation, it also generated more questions. One significant question not addressed by this study, is the question of riders whose mounts are cared for by another. Are grooms and horse trainers (taking care of multiple horses) shoulders, spines or necks in worse or better condition and have more or less pain than those who do not take care of the horse or ride only a single horse daily? Additionally, we hope the results spur further sports medicine focused studies from which specific protocols can be developed to help deal with the many injuries equestrian athletes face.

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