

# A Survey Of Elbow Injuries In Badminton Players

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## Abstract

We evaluated 124 male badminton players training in Tehran Badminton Association's courts. We evaluated the medical and sports history of all the players. The badminton players mean age was 23.8 years (10-52 years). 17.7% of the players had the history of medial elbow injury and 9.7% of the players had the history of lateral elbow injury. The mean of total duration of training badminton was 1688.4 hours (26-7120 hours). We could not find that the total duration of training had a role in the occurrence of medial or lateral elbow injuries. Also, we did not find that the hours of training per week had a role in the occurrence of medial or lateral elbow injuries.

## INTRODUCTION

Badminton is an individual, non-contact sport requiring jump, lunges, quick changes in direction, rapid arm movements and also rapid and repetitive wrist movement. Injuries about the elbow are common in racquet sports and are most often related to overuse. Lateral and medial elbow pains are two main elbow symptoms. Medial elbow pain is related to medial epicondylitis, ulnar nerve injury, medial collateral ligament injury, medial elbow intra-articular pathology, or any combination of these causes. The source of lateral elbow pain is often lateral epicondylitis or rarely degenerative changes in radiocapitellar joint or radial tunnel syndrome (1).

Studies reporting the elbow injuries in badminton players are sparse and also very few studies has been carried out regarding the relation between hours of training badminton and occurrence of elbow injuries. The aim of the present study was to determine the prevalence of medial and lateral elbow injuries in badminton players training in Tehran Badminton Association's courts and also to describe the relation between hours of training badminton and the occurrence of medial or lateral elbow injury.

## MATERIAL AND METHODS

We evaluated 124 male badminton players who were members of Tehran Badminton Association. We interviewed and took medical and sports history of all the players. The standard records included: age, total time of training badminton, hours of training badminton per week, history of medial elbow injury (medial elbow pain) and history of

lateral elbow injury (lateral elbow pain), the time of onset of medial elbow pain and the time of onset of lateral elbow injury. Our definition for elbow injury was the player's expression of history of elbow pain. The exclusion criteria was: 1-Playing in addition to badminton other racquet sports, boating, gym, golf and polo 2-Players who were typist, carpenter or painter 3-Players who were training noticeably irregularly 4- Players with history of elbow pain before onset of training badminton.

A computer using SPSS software analyzed the data. Statistical analysis was carried out using Chi-square and t-tests and correlation coefficients. Significance was considered if lower than 0.05 in all tests. Helsinki was promised in all stages of the study.

## RESULTS

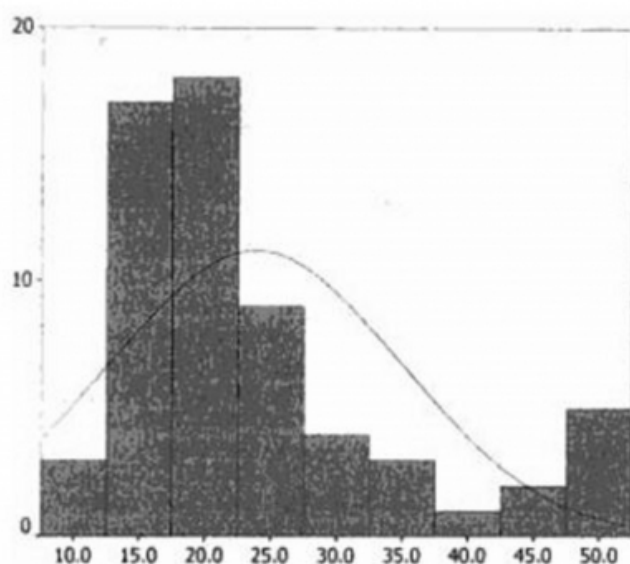
The badminton players mean age was 23.8 years (10-52 years). See figure 1 for age distribution in badminton players. 22 players (17.7%) had the history of medial elbow pain. 12 players (9.7%) had the history of lateral elbow pain (figure 2). The mean hours of training per week was 6.7 hours and the mean hours of training per week for those with history of medial elbow pain was 7.1 hours and for those with history of lateral elbow pain was 9.4 hours ( $p>0.05$ ). The mean of total duration of training badminton was 1688.4 hours (26-7120 hours) and in those with history of medial elbow pain the mean of total duration of training badminton calculated from onset of training badminton to onset of medial elbow pain was 1502.5 hours and in those without history of lateral elbow pain was 1490.7 hours and also in

those with history of lateral elbow pain the mean of total duration of training badminton calculated from onset of training badminton to onset of lateral elbow pain was 2138.5 hours and in those without history of lateral elbow pain was 1423.6 hours ( $p>0.05$  for all). We found out that with every 500 hour training time increment the incidence of medial elbow injury was significantly different (Chi-square=0.000) but without any correlation. Also, with every 500 hour training time increment the incidence of lateral elbow injury was significantly different (Chi-square=0.000) but without any correlation.

**Figure 1**

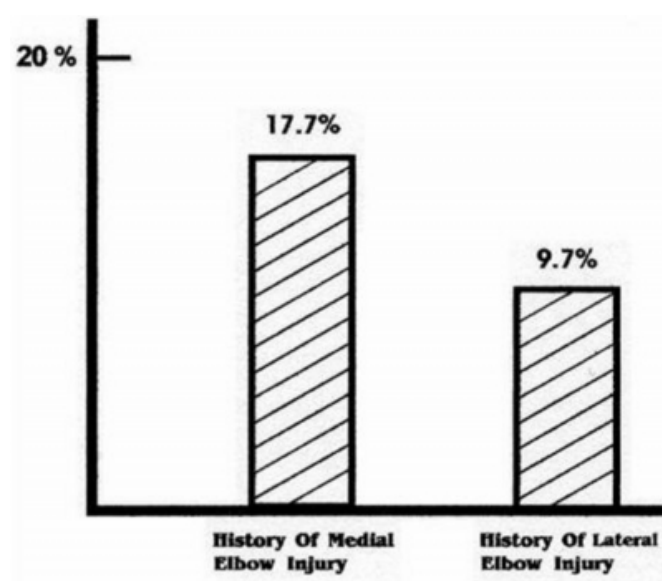
Figure 1: Age distribution in badminton players

Percent



**Figure 2**

Figure 2: History of elbow injuries in badminton players



## DISCUSSION

In our study, we found that 17.7% of badminton players had a history of medial elbow pain during training reflecting a history of medial elbow injury including medial epicondylitis, ulnar nerve injury, medial collateral ligament injury, medial elbow intra-articular pathology, or any combination of these causes. However we could not define exactly the type of the injury. Also, in our study, we found that 9.7% of badminton players had a history of lateral elbow pain during training reflecting a history of lateral elbow injury including lateral epicondylitis, degenerative changes in radiocapitellar joint or radial tunnel syndrome. However we could not define exactly the type of the injury. In contrast to previous studies, we found that the prevalence of elbow injuries is more prevalent than reported and also medial elbow injury is more common than lateral elbow injury (2,3,4,5,6,7,8). The reason for finding more elbow injuries may result from the nature of our study that we interviewed all the players in the sports club not like most of previous studies visiting players with injury in sports clinics.

We did not find that the total duration of training had a role in the occurrence of either medial nor lateral elbow injuries. Also, we did not find that the hours of training per week played a role in the occurrence of neither medial nor lateral elbow injuries. Kluger R, Stiegler H and Engel A in their study in Vienna, Austria found that the incidence of acute badminton injuries increased constantly from the onset of training (9) but in our study we did not find that the incidence of medial or lateral elbow injuries increase constantly from

the onset of training. It occurred at any time irrelevant to the total duration of training.

We suggest that more studies, especially prospective studies, have to be carried out in order to define exactly the type of elbow injuries with considerable attention to physical examination of the upper extremities. Also, it has to be mentioned that we did not have regularly access to female players training badminton.

### **References**

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