

Biomechanical Analysis of the Triple Jump

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1. Introduction

Triple jump has been considered to be a young discipline but, however, it has been performed already in Antic Greece as well as in Ireland in 632 b.Cr. Later an Irishman Honley has jumped 13.26 on the cricket ground. Obviously the first man who jumped over 14 m was a Scotsman Leiden, who may jumped by using only one leg (hop-hop-jump). This technique was used also an Irishman Shanahan in his triple jump performance of 15.26 m. In the first modern Olympic Games in 1896 the winner of the triple jump, an American Connolly, utilized the same technique as well but his final result was only 13.71.

The present technique (hop-step-jump) started to dominate in the beginning of the 20th century. The first IAAF world record was registered in 1911 with a jump of 15.52 by Daniel Ahearn (USA). Naoto Tajima (Japan) was the first athlete who jumped over 16 m in the Olympic Games in 1936, while 17 m was jumped first time Mexico City in 1968 by Josef Schmidt (Poland). In the year started Victor Sanejev's winning period in the Olympic Games (Mexico City 17.39, Munich 17.35 and Montreal 17.29). In addition, he achieved silver medal in the next Olympic Games in 1980 by a performance of 17.24. Later Joao Carlos de Oliveira and Willie Banks approached the 18 m mark with 17.89 in 1975 and 19.97 in 1985, respectively. Jonathan Edwards improve dramatically the world record in the World Championships in 1995 with a performance of 18.29 m.

Among the female jumpers, triple jump is officially only 16 years old. Namely the IAAF holds a world record list for women since the beginning of 1990. In the first World Championships where triple jump for women was organized in 1993, the winner (Anna Birykova, Russia) jumped 15.09 m. In the next championship in 1995 Irina Kravets improved the record to 15.50. However, the mean distance of best eight finalists have not changed during the last 12 years either in women or men (table 1).