

## INJURY INCIDENCE AND FOOTWEAR SATISFACTION OF MALE COMPETITIVE BALLROOM DANCERS

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### INTRODUCTION

In recent decades, ballroom dancing has become very popular around the world. With an increasing number of people putting on their dance shoes, ballroom dancing has, in fact, became more than just a predominant social activity. Many competitive ballroom dancers had sustained dance-induced injuries. The goal of this study was to investigate the injury incidence and footwear satisfaction in competitive ballroom dancing.

### METHODS

Personal interviews were conducted on 29 male competitive ballroom dancers in Singapore. The personal particulars of each subject were acquired in section I of the survey. This was to categorize subjects into different age groups, dancing experience, and level of expertise. Section II of the survey investigated the injury profile of each subject whereby the average number of injuries per year sustained was documented. In addition, each subject was asked to describe during which actions were injuries occurred. In section III, the level of satisfaction of dance footwear in use was recorded. Subjects rated dance shoes in terms of satisfaction on a scale of 1 (least satisfied) to 5 (most satisfied). Factors taken into account were traction, fit, impact absorption, support, height, comfort, and arch.

### RESULT AND DISCUSSION

#### Injury Incidence

The male Latin dancers generally had a higher injury profile as compared to the Standard dancers. The most common injuries in male Latin dancers occurred at the back ( $14.0 \pm 7.5$  injury/year), ankle ( $13.4 \pm 7.4$  injury/year), hip ( $11.8 \pm 8.2$  injury/year), and foot ( $10.7 \pm 5.4$  injury/year). The injuries at the back and hips were probably due to the vigorous upper body actions required in the Latin dances. The Samba and Cha Cha Cha especially required a lot of hip rotation and hip thrust. The Samba roll required extreme stretching and bending of the back in anti-clockwise directions. The basic Cha Cha Cha steps, on the other hand, had the dancer thrusting the hips to move forward, backward, or sideways. When acute actions were performed sharply at a fast tempo, the male Latin dancers were easily prone to injuries if no proper care was taken. Male dancers generally had the exaggerated jumping and landing actions in the routine for Paso Doble. When these actions were not executed properly, dancers could injure the foot. Furthermore, male dancers were sometimes required to support their partners, causing extra stress on the body.

Footwork was a very important factor in competitive ballroom dancing. Whether it is the sensual Rumba or the lively Jive, tremendous stress was placed on the dancers' feet. Furthermore, dancing in heels (1 ~ 1.5 inch) had aggravated this stress. Thus, proper warm-up must be performed before engaging in vigorous dance training.

The main locations of common injuries sustained by the male Standard dancers were found at the foot ( $5.1 \pm 3.2$  injury/year), ankle ( $4.8 \pm 3.1$  injury/year), shin ( $3.8 \pm 3.1$  injury/year), and wrist ( $3.5 \pm 3.1$  injury/year). Although the nature of the Standard dances differed greatly from the Latin dances, amount of stresses placed on the dancers' feet could also be very enormous. Adequate control in the foot and ankle was required to maintain the up-down motion in the Waltz, and the Slow Foxtrot. On the contrary, fast galloping and jumping actions were required in the Viennese Waltz, and the Quickstep. In the Standard dances, the couple covered huge distances on the dance floor with the male dancer taking the lead over his partner. The male dancer prompted the female dancer by means of the upper and lower extremity contact. For example, in the Standard ballroom dance Waltz, the male dancer would take the first step forward. And when his shin touched the partner's, she received the cue and subsequently took a step backwards. The constant rubbing and collision of the shin could have resulted in the occurrence of shin injuries.

#### Footwear Satisfaction

The subjects were generally satisfied with the dance footwear in use. The more significant variables include the fit ( $4.0 \pm 0.8$ ), impact absorption ( $3.6 \pm 1.0$ ), support ( $3.6 \pm 1.0$ ), and comfort ( $4.0 \pm 1.0$ ). One possible explanation for the high satisfaction rate of the fit may be that the front of the foot was completely covered by the footwear of male dancers. And the fit of footwear could also be adjusted with the tightening or loosening the shoelaces. For impact absorption of dance footwear, subjects had a more uniform pressure distribution on the feet due to the relatively high contact area with the surface of the dance floor. The arch of the dance shoes became steeper as the heel height increased. Since the heel heights of the dance shoes for male dancers were significantly lower than female's at 1 to 1.5 inch, the tendency for developing foot problems with the shoe arch was greatly reduced.