

ADVANCES IN TRAINING OPTIMIZATION: PERFORMANCE, HEALTH, AND INJURY PREVENTION IN SPORT

AVANCES EN LA OPTIMIZACIÓN DEL ENTRENAMIENTO: RENDIMIENTO, SALUD Y PREVENCIÓN DE LESIONES EN EL DEPORTE

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Editorial

The International Strength and Conditioning Society (SCS) and the Universidad Católica de Murcia (UCAM) are pleased to present the Special Issue “Advances in Training Optimization: Performance, Health, and Injury Prevention in Sport”, framed within the context of the SCS 7th Annual Meeting. In line with the SCS’s vision and mission to disseminate high-quality evidence on the benefits of strength and conditioning for performance and health worldwide, the SCS 7th Annual Meeting took place in Murcia, Spain, from 9 to 11 October 2024. The event, held at UCAM’s headquarters, brought together more than 400 attendees from different areas of expertise, including sport sciences, sports physiotherapy, sports nutrition, exercise physiology and biochemistry, and sports medicine. This diversity provided ample opportunities to exchange and discuss the latest evidence on strength and conditioning practices from multiple perspectives.

In a stimulating social and professional environment, practitioners and academics from different countries had the opportunity to attend various sessions delivered by national and international speakers on a wide range of topics related to strength training in elite sport, children and older adults; applied sport science for load management in elite environments; as well as injury prevention and the optimization of rehabilitation processes. As in previous years, the conference also offered multiple practical workshops delivered by renowned academics and practitioners on strength training and cancer, speed and power training in team-sports, recovery strategies in high-performance sport, and strategies to enhance strength, conditioning, and nutrition in the Ultimate Fighting Championship (UFC).

The event also promoted the dissemination of up-to-date research in strength and conditioning by providing professionals and researchers with the opportunity to present and discuss their latest findings. In recognition of research excellence, several awards were presented to outstanding researchers: the “*Young Investigator Award*” (YIA) and the “*Applied Science Award*” (ASA). Noteworthy, the selection process involved an expert committee for both professional and academic awards. For the YIA and ASA awards, 18 semifinalists were selected, who delivered oral presentations in front of a panel of three experts from the Scientific Committee. From these 18 semifinalists, three finalists were chosen in each category, who presented their work again on the final day of the event. The committee selected the award winners, which were granted to Ana Moradell Fernández (Spain) for the YIA, with the oral communication entitled: “*Effects of a multicomponent training and a detraining period on cognitive and functional performance of older adults at risk of frailty*”, and to Evelien Van Roie (Belgium) for the ASA, for the oral communication: “*Stair-climbing versus machine-based resistance exercise to improve muscle power among older adults*”. Finally, the SCS recognized professional excellence in the field of strength and conditioning and awarded the “*Female Strength and Conditioning Coach of the Year Award*”, the “*Male Strength and Conditioning Coach of the Year Award*”, the “*Emerging Strength and Conditioning Coach of the Year Award*”, and the “*Strength and Conditioning Coach Career Achievement Award*” to distinguished coaches.

In addition to the various activities carried out during the 7th SCS Annual Meeting, the event also served as the platform for the launch of this Special Issue in the journal *Cultura, Ciencia y Deporte*. The present collection of articles includes 11 studies focused on the optimization of sports performance, health, and injury prevention from a multidisciplinary perspective. The included works address topics related to rehabilitation and functional recovery in athletes, the analysis of physical, anthropometric, physiological, and psychosocial variables, as well as the study of competitive demands and performance determinants in different sports. The Special Issue includes studies on training and recovery strategies, such as cognitive-motor training, mental imagery, the use of compression garments, and the effects of stretching on neuromuscular performance. It also comprises more health-oriented investigations, such as the analysis of low back pain in dancers or the effectiveness of yogic practices on symptoms associated with excessive smartphone use. Overall, these contributions provide an up-to-date and applied overview of different scientific approaches aimed at improving physical performance, optimizing recovery processes, and promoting health in sport and university contexts.