Editorial

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Welcome to the second edition of this two-part special issue of *Journal of Science in Sport and Exercise (SSEJ)* focussing on the topic of training young athletes. Part-two of the special issue continues to present a mix of review articles and empirical research that explore a diverse but interconnected range of topics. Throughout this special issue a multitude of perspectives and experimental designs are employed, bringing together inter and multidisciplinary research that consider a variety of interconnected themes related to training different populations of young athletes. The collection of papers highlight how practitioners have the opportunity to positively impact on youth athletes in many different ways.

Practitioners working with youth should look to develop robust athletes who are physically well prepared to tolerate the demands of sport. In this special edition Diekfuss et al. provide two review articles that highlight the opportunity to capitalize on high levels of neuroplasticity in youth to promote motor learning and develop injury-resistant athletes [1, 2]. Diekfuss et al. expand further to present a framework and examples for practitioners working with youth athletes [1]; Optimizing Performance Through Intrinsic Motivation And Learning Prevention Rehabilitation Exercise Play (OPTIMAL PREP) [2]. Empirical work by Read et al. provides evidence of the adaptability of movement control in young athletes in response to a short-term neuromuscular training program [8], while further work by Sommerfield et al. examines the effects of a school-based injury prevention program on injury incidence in young females [9].

Sport and exercise should seek to both protect and enhance the development of biological systems throughout childhood and adolescence. Brain health is a particularly relevant topic and novel research by Logan et al. demonstrates that wearing a collar to provide mild bilateral compression of the jugular vein has the potential to help protect the brain of female high-school soccer players [5]. Pilot work by McNarry et al. shows that inspiratory muscle training can increase inspiratory muscle strength and lead to clinically meaningful change in the heart rate variability of children with cystic fibrosis [6], further supporting the concept that “exercise is medicine”. Training youth athletes will always

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also have a focus on improving physical performance. A training study by Morris et al., spanning a large population of youth football players in different maturity categories, found that resisted sprint training only maintained strength, sprint and jump performance, rather than improving those qualities [7]. Practitioners may need to find alternative methods to develop those qualities as Kelly and colleagues show that young soccer players ranked with higher potential by their coaches sprint faster and jump higher than their lower ranked teammates [4]. Kelly et al. also show that higher ranked players display superior decision-making and perceptual-cognitive skills, reinforcing the need for a multi-disciplinary approach to talent development [4]. For practitioners wanting to use jump training with young female athletes, Gillen et al. examine a number of jump conditions to describe the influence of eccentric pre-loading on kinetic outcomes while also examining the influence of size and maturity [3].

As with the first edition of this two-part special issue, we must give special thanks to all the authors who have contributed their time, knowledge and expertise to provide original insights into themes related to training youth athletes. We would also like to reaffirm our sincere thanks to Deputy Editor-in-Chief, Dr. Steven Fleck for guiding us throughout the editorial process of this two-part series. We would also like to thank all reviewers and the *SSEJ* editorial staff for their timely and supportive work. We hope you, the reader, will have been enthused by the diverse content of this two-part special issue, and that you take away new ideas for your own continued work with young athletes.

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