YOUTH SPORTS
GROWTH, MATURATION AND TALENT

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INTRODUCTION

Study of the structural and functional characteristics of athletes has a long tradition in physical education and the sport sciences (Malina, 1997). For example, an extensive battery of anthropometric and functional characteristics was routinely collected on Harvard University students during the latter part of the 19th century (Sargent, 1887). These early observations suggested that the development of athletes was governed, in part, by the constitution of the individual, the specific sport, and the time devoted to practice of the sport. Sargent asked many questions that are still relevant today. For example, can outstanding athletic ability be predicted from body structure?, or does the athlete have a physique that is best suited for a specific sport?

It is also increasingly apparent that elite young athletes often show the physical characteristics associated with successful adult athletes in specific sports (Carter and Heath, 1990). Such observations highlight the need to better understand the growth and maturation of young athletes in the context of the training programs to which they are exposed, often beginning at relatively young ages (Malina, 1998; Malina et al., 2004).

A related question when working with young athletes is long term planning. This is a major feature of talent development programs in modern sport. This is especially relevant because some programs have as their objective the identification of youngsters with potential to attain success in sport at national and international levels. It is suggested that a well-organized and intentional program over a long period encourages a more rational use of training methods (Bompa, 1990).

Individual differences in the timing and tempo of the adolescent growth spurt and sexual maturation have a major impact on the body size and performances of boys. In the context of youth sports, early maturing boys who