CHAPTER 6: GYMNAST WRIST: the ulnar variance phenomenon

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INTRODUCTION

Nowadays, elite sports for children and youth becomes more and more a public phenomenon. The extreme training demands and controlling young athletes by coaches, often with approval of the parents, together with changes in expectations of performance at top levels, has resulted in public and medical concerns. (Bar-Or, 1996; Ryan, 1995) This is especially true in sports as gymnastics, in which a prepubertal physique is a prerequisite for top level gymnastic achievements. (Claessens, 1999) Further, the demands of artistic gymnastics for females have also changed, eg requirements for more difficult routines, year-round training, enhanced mental stress, and so on (Gould, 2001; Jemni et al., 2001; Normile, 1996; Ryan, 1995).

The significant growth and popularity of women’s gymnastics became more and more evident after the 1972 and 1976 Olympics, where stars as Olga Korbut and Nadia Comaneci introduced the world, via the media, to this artistic sport (Ryan, 1995). Accompanying this popularity has been the increasingly dominant performance of younger, smaller-sized gymnasts (Caine et al., 1996; Claessens, 1999). Average ages, and heights and weights of female gymnasts participating at Olympic and World competitions have declined over the past 20 to 30 years (Claessens, 1999). Over a period of about 25 years, the average chronological age of elite female gymnasts declined by 6 years. Secular declines in mean heights and weights parallel the decrease in chronological age. Over the same period, mean height have declined by 4 to 5 cm. The secular decline in height is accompanied by a dramatic reduction in mean weight of about 8 to 9 kg (Claessens, 1999; Claessens et al., 1991). Comparable declines in age, height and weight were also observed in artistic female gymnasts from the United States competing at the 1992 Olympics which were 6% younger, 10% shorter, and 22% lighter compared to their 1976 counterparts (Ryan, 1995). The majority of elite gymnasts also tend to be later-maturing individuals (Claessens, 1999; Malina, 1999, 2001). In general, present-day elite gymnastics has evolved to favor the body of a child in

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