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endocrine system in prepubertal children
Hypothalamic-pituitary function in adolescence HPG axis in adolescence; GH/IGF-1 axis in adolescence; Stress response; Neuroendocrine regulation of appetite/satiety; Energy balance; Leptin; Ghrelin; Interaction of appetite regulatory systems and control of pubertal maturation; Future research; Summary; References; Recommended reading; Chapter 4 Skeletal health of gymnasts; Introduction; Factors involved in skeletal growth: sensitive period from childhood to adulthood; Mechanisms of adaptive responses of bone to exercise; Exercise as a stimulus for bone site
Specificity of gymnastics in upper and lower limbs Skeletal responses to mechanical loading at pre-, peri-, and post-pubertal stages; Differential effects of gymnastics on bone mass, density, geometry, architecture, and bone strength index; Bone mineral density; Geometry; Macroarchitecture: bone strength; Microarchitecture; Skeletal health of gymnasts after training cessation; Further research (with questions still to be answered or to be investigated); Summary; References; Recommended reading; Chapter 5 Energy needs and weight management for gymnasts; Introduction
Energy requirements for gymnasts Energy intake; Carbohydrates; Protein; Fat; Vitamins and minerals; Dieting and disordered eating in gymnasts; Optimizing energy intake and body composition; Recommendations for weight loss interventions in gymnasts; Further research; Summary; References; Recommended reading; PART 3 TRAINING AND PERFORMANCE ASPECTS; Chapter 6 Biomechanics related to injury; Introduction; A tissue response model related to gymnastics; Acute and overuse tissue failure in gymnastics; Mechanical loading of biological structures in gymnastics; Measurement of mechanical loading
Mechanical exercise stimulus in gymnastics

Sommario/riassunto

This new entry in the Handbook of Sports Medicine and Science series, published in partnership with the Medical Commission of the International Olympic Committee, and endorsed by the International Gymnastics Federation (FIG), offers comprehensive and practical guidance on the training and medical care of competitive gymnasts. Written and edited by leading trainers, team doctors, coaches and other professionals with unparalleled experience in elite gymnastics, this book covers all the key aspects of caring for gymnasts, minimizing the unique risks these athletes face, and treating
