



PÉCSI TUDOMÁNYEGYETEM
ÁLTALÁNOS ORVOSTUDOMÁNYI KAR

Development of the young female athletes

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Objectives

- Increasing participation and optimizing performance at both the individual and team levels.
- Supporting athletes throughout their career pathway, including active playing years, periods of injury-related absence, and rehabilitation.
- Understanding and addressing the psychological, physical, and financial consequences associated with injury, rehabilitation, and time away from sport.

Quality Sport and Physical Activity



Benefits of an Appropriate Lifestyle

- Better health outcomes
- More effective disease prevention
- Improved cognitive and learning abilities
- Enhanced mental health and stress management
- Stronger social interactions and relationships



BETTER QUALITY OF LIFE

Excellence and Lifelong Participation in Sport



Determinants of Performance

- Genetic background
- Environmental influences
- Biological, physical, psychological, mental, cognitive, and emotional factors
- Optimized and individualized training, competition, and recovery strategies

Long-Term Athlete Development (LTAD) model

- Developmental stages and individual differences
- Biological age versus chronological age; sex-specific characteristics
- Abilities and performance can vary substantially
 - Childhood-to-adolescence transition
 - Transition to adulthood
 - Aging

Biological age

- Anthropometric Assessment
- Radiology: Imaging Techniques
 - X-ray: BoneXpert
 - EOS Imaging System
- Comprehensive Analysis
- Body Structure and Physique



Developing a Healthy Lifestyle



- Development of physically active lifestyle habits (e.g., family hiking and cycling activities)
- Experiencing the body's capabilities and strength, promoting an intrinsic sense of well-being and security
- Individualized exercise prescription and load management

Stages of Athlete Development



Physical Literacy and Recreational Sport Foundation:

- Active Start (0–6 years)
- FUNdamentals (Girls: 6–8 years / Boys: 6–9 years)
- Learning to Train (Girls: 8–11 years / Boys: 9–12 years)

Focus on Excellence:

- Training to Train (Girls: 11–15 years / Boys: 12–16 years)
- Training to Compete (Girls: 15–21± years / Boys: 16–23± years; biological and chronological age considered)
- Training to Win (18+ / 19+ years; based on chronological age)

Promoting Lifelong Participation in Sport:

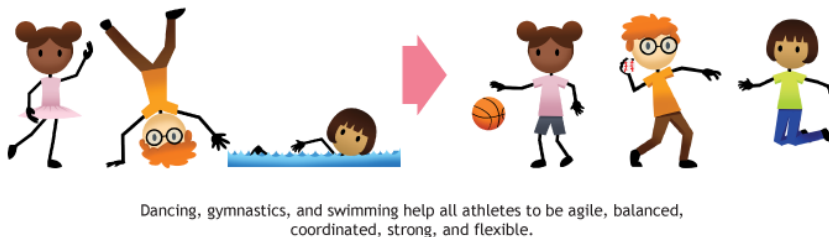
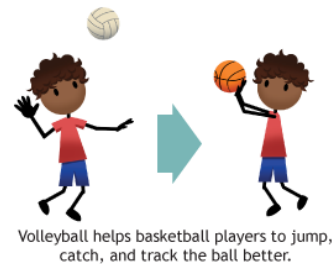
- Active for Life

Early Specialization

- Advantages and Disadvantages

The multi-sport approach: How different sports help each other

Can tennis help your child play baseball? Will figure skating make them better at hockey? Is gymnastics good for other sports?



For most sports and physical activities, kids should avoid specializing too early. In fact, they should try as many different sports and activities as possible before their teen years. Through this multi-sport approach, they develop better physical literacy and athleticism.

ACTIVE FOR LIFE®

Advantages of Early Diversification



- Does not prevent the attainment of elite performance levels.
- Promotes a longer athletic career and lifelong engagement in sport and physical activity.
- Encourages participation in multiple sports and provides diverse, enjoyable experiences.
- Unstructured play during the sampling years fosters self-regulation and intrinsic motivation.
- Diverse movement experiences enhance motor, cognitive, and emotional development.
- Sport-specific specialization can be successfully postponed until late adolescence (girls: 14–15 years; boys: 16–17 years).

THE 10 MOST IMPORTANT COMPONENTS OF TRAINING AND PERFORMANCE

- Endurance
- Maximal Strength
- Speed
- Coordination
- Flexibility and Mobility
- Physique
- School Environment
- Psychological and Mental Factors
- Sustainability
- Sociocultural Factors





Prevention

Medical screening and team physician monitoring

- Stability, alignment, and musculoskeletal assessment

Training management

- Warm-up and cool-down
- Progressive loading
- Psychological preparation (focus and motivation)

Appropriate goal setting

- Opponent selection
- Realistic expectations and objectives



Prevention

Knowledge of Sport-Specific Injuries

- Injury prevention education
- Mental preparation
- Technical skills development

Sport Environment and Competition Preparation

- Technical conditions
- Appropriate equipment
- Environmental factors
- Guidance for recreational and leisure-time sport activities

Translating Research into Injury Prevention Practice (TRIPP)



- 1. Injury surveillance:** Measure the incidence and severity of the injury problem in a specific population.
- 2. Aetiology and mechanisms:** Identify the causes and risk factors that lead to the injuries.
- 3. Preventive measures:** Develop targeted counter-measures or training interventions.
- 4. Scientific evaluation (efficacy):** Test the intervention under ideal, controlled trial conditions.
- 5. Implementation context analysis:** Describe the real-world setting, including barriers, motivators, and end-user culture.
- 6. Real-world effectiveness:** Evaluate whether the measure prevents injuries when broadly adopted in everyday practice



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Thank you for your attention!