Long-Term Athlete Development

An Outline of LTAD

The first 4 stages, with their respective approximate age ranges, are generally appropriate for all late-specialization sports. In the Training to Compete and Training to Win stages, age ranges vary from sport to sport.

The 10 key factors influencing LTAD

1. The 10-Year Rule
2. The FUNdamentals
3. Specialization
4. Developmental Age
5. Trainability
6. Physical, Mental, Cognitive, and Emotional Development
7. Periodization
8. Calendar Planning for Competition
9. System Alignment and Integration
10. Continuous Improvement

Active Start Stage
Chronological Age
Males and Females 0-6

- FUN and part of daily life
- Fitness and movement skills development
- Focus on learning proper movement skills such as running, jumping, wheeling, twisting, kicking, throwing, and catching
- Not sedentary for more than 60 minutes except when sleeping
- Some organized physical activity
- Exploration of risk and limits in safe environments
- Active movement environment combined with well-structured gymnastics and swimming programs
- Daily physical activity

FUNdamentals Stage
Chronological Age
Males 6-9 and Females 6-8

- Overall movement skills
- FUN and participation
- General, overall development
- Integrated mental, cognitive, and emotional development
- ABC’s of Athletics: agility, balance, coordination, and speed
- ABC’s of Athletics: running, jumping, wheeling, and throwing
- Medicine ball, Swiss ball, own body strength exercises
- Introduction to mental preparation
- Medicine ball, Swiss ball, own body strength exercises
- Introduce simple rules of ethics of sport
- Screening for talent
- No periodization, but well-structured programs
- Daily physical activity

Learning to Train Stage
Chronological / Development Age
Males 9-12 and Females 8-11

- Overall sport skills development
- Major skill learning stage: all basic sport skills should be learned before entering Training to Train
- Integrated mental, cognitive, and emotional development
- Introduction to mental preparation
- Medicine ball, Swiss ball, own body strength exercise
- Introduce ancillary capacities
- Talent Identification
- Single or double periodization
- Sport specific training 3 times week; participation in other sports 3 times a week

Figure 1 illustrates the stages of LTAD.
**Training to Train Stage**
Chronological / Developmental Age
Males 12-16 and Females 11-15

- Sport specific skill development
- Major fitness development stage: aerobic and strength. The onset of Peak Height Velocity (PHV) and PHV are the reference points
- Integrated mental, cognitive, and emotional development
- Develop mental preparation
- Introduce free weights
- Develop ancillary capacities
- Frequent musculoskeletal evaluations during PHV
- Selection
- Single or double periodization
- Sport specific training 6-9 times per week including complementary sports

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**Training to Compete Stage**
Chronological / Developmental Age
Males 16-23 +/- and Females 15-21 +/-

- Sport, event, position-specific physical conditioning
- Sport, event, position-specific technical tactical preparation
- Sport, event, position-specific technical and playing skills under competitive conditions
- Integrated mental, cognitive, and emotional development
- Advanced mental preparation
- Optimize ancillary capacities
- Specialization
- Single, double, or triple periodization
- Sport specific technical, tactical and fitness training 9-12 times per week

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**Training to Win Stage**
Chronological Age
Males 19 +/- and Females 18 +/-

- Ages are sport specific based on international normative data
- Maintenance or improvement of physical capacities
- Further development of technical, tactical, and playing skills
- Modelling all possible aspects of training and performance
- Frequent prophylactic breaks
- Maximize ancillary capacities
- High Performance
- Single, double, triple, or multiple periodization
- Sport specific technical, tactical, and fitness training 9-15 times per week

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**Active For Life Stage**
Enter At Any Age

- Minimum of 60 minutes moderate daily activity or 30 minutes of intense activity for adults
- Transfer from one sport to another
- Move from highly competitive sport to lifelong competitive sport through age group competition
- Move from competitive sport to recreational activities
- Move to sport careers or volunteering
- There is a better opportunity to be Active for Life if physical literacy is achieved before the Training to Train stage