

ACHIEVING GREATNESS

NSCA COACHES CONFERENCE

JANUARY
3 - 5, 2018

CHARLOTTE
N. CAROLINA





Long-Term Athlete Development in American Football

Joe Eisenmann, PhD

@Joe_Eisenmann



Conflict of Interest Statement

- I have no actual or potential conflict of interest in relation to this presentation.

Think about your youth sports/football experience

- Was it positive? Fun? Enjoyable?
- Did you learn fundamental movement skills & sports skills and allowed to have success?
- Was it developmentally appropriate? Would you consider it a journey with a structured pathway going from simple to complex skills and strategies?
- If you had to change it, what would you recommend?
- What's the purpose of youth sports?



Topics

- History of LTAD – outside the U.S.
- USOC American Development Model
- Principles of LTAD / ADM
- Application to American Football
- Role of the Strength & Conditioning Coach

History of LTAD

agōgē

- the rigorous education and training program mandated for all male Spartan citizens
- aim of the system was to produce strong and capable warriors to serve in the Spartan army.
- Stages
 - the *paídes* (about ages 7–17)
 - the *paidískoi* (ages 17–19)
 - the *hēbōntes* (ages 20–29)

History of LTAD



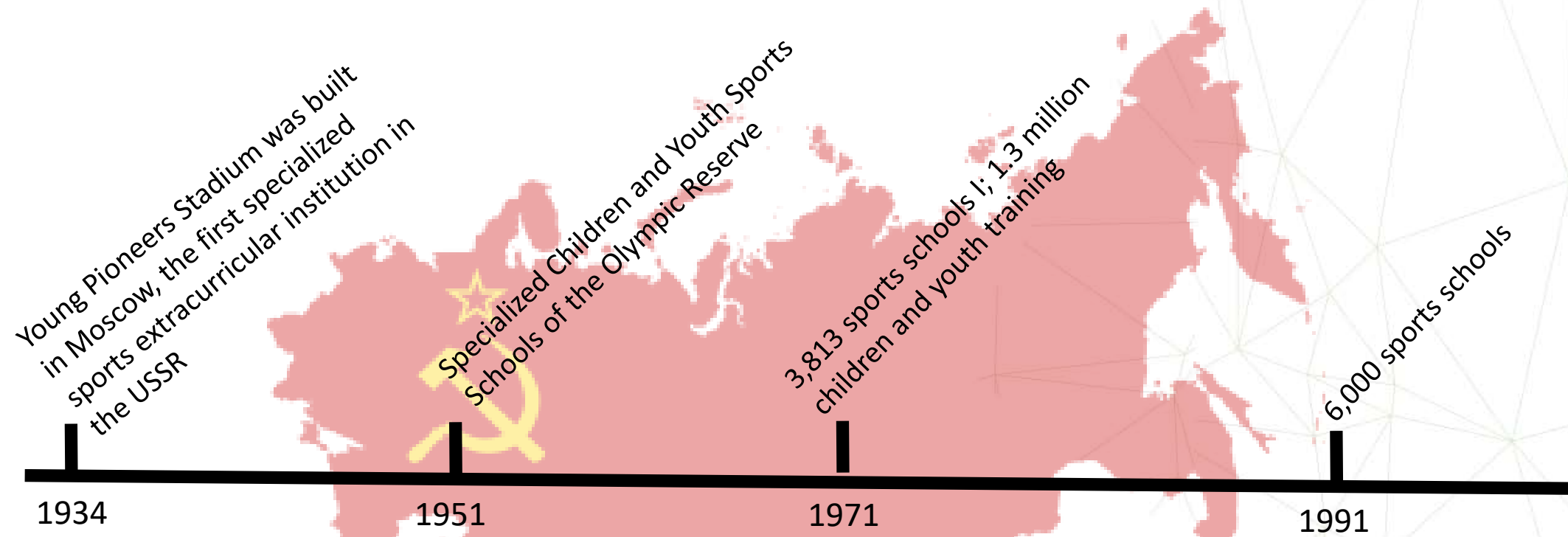
President Kennedy's public service announcement promoting physical fitness.

#oldschoolPE

Recent History of LTAD

- Riordan J. Sport in Soviet society. Cambridge: Cambridge (1977)
- Harsanyi L. A 10-18 éves atletak felkészítesének modellje. Utánpótlásnevelés 10 (1983)
- Bompa, T. From childhood to champion athlete. West Sedona, AZ: Veritas Publishing (1995)

Former Soviet Union & GDR sports schools

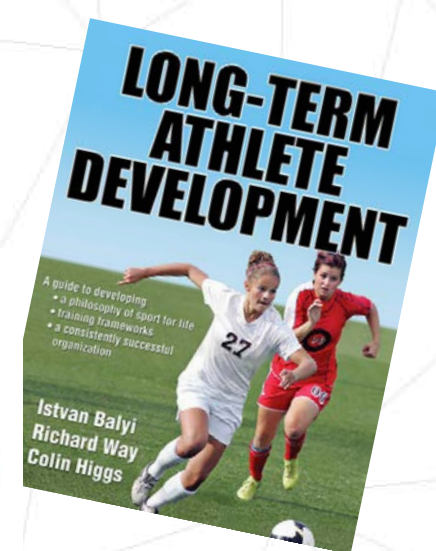
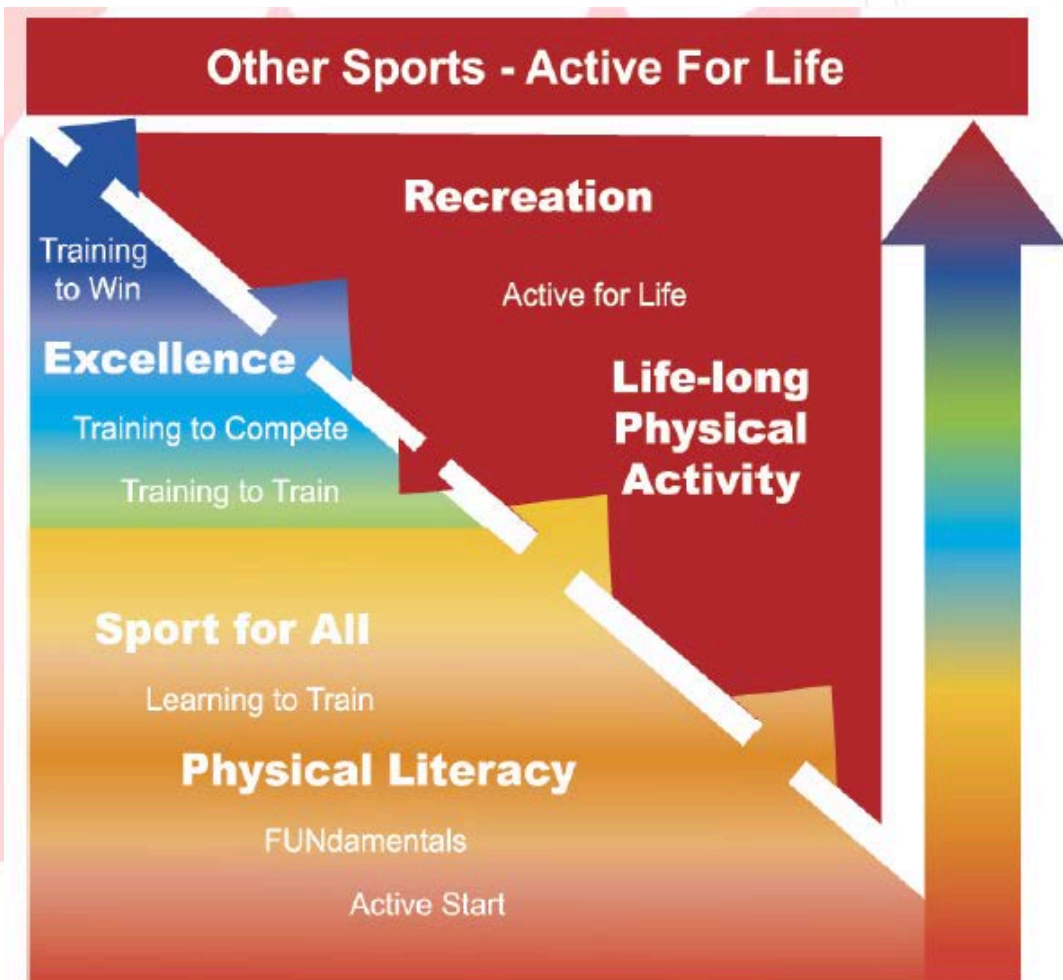


“a daily routine that creates a healthy balance between physical and mental exertion and relaxation.” Ruediger Ziemer, headmaster Potsdam Sports School

Istvan Balyi

LTAD is

- **Integrate** training, competition and **recovery** programming with relation to biological development and maturation
- **Equal opportunity** for **recreation** and **competition**
- **Athlete centred**, coach driven and officials, parents, administration, sport science and sponsor supported



Active StartMales and
Females 0-6**FUNDamentals**Males 6-9
Females 6-8**Learning to Train**Males 9-12
Females 8-11**Training to Train**Males 12-16
Females 11-15**Training to Compete**Males 16-23 +/-
Females 15-21 +/-**Training to Win**Males 19 +/-
Females 18 +/-**Active for Life**Enter At
Any Age

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

Figure 1 illustrates the stages of LTAD.

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 Athleticism: agility, balance, coordination, and speed

ABC's of Athletics: running, jumping, wheeling, and throwing

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

Sport 4 Life

AFL Stages of Development

The following descriptions have been developed to ensure a clear understanding of the objectives and focus of the policy at each stage of a young player's development. It begins with the Fundamental Stage (AFL Junior), which includes all participants in the game and culminates in the Maintenance Stage (senior players).

Stage descriptions
1. Fundamental Stage (5-11 years): AFL Junior
Objective: participation and learning fundamental movement and game skills.

The program is well-structured and fun. The emphasis is on the overall development of the participant's fundamental motor skills and physical capacities using game-related, skill-development activities. This is a critical period for motor skill development. Correct running and jumping, and basic game skills should be taught, and participation in a range of sports encouraged for all-round development. Simple rules and ethics are also introduced.

2. Sampling Stage (12-14 years): AFL Junior/Youth
Objective: learning all the fundamental skills of the game and developing basic physical capacities, while continuing to develop all-round sports skills.

Players learn how to train and consolidate the basic skills of the game. They are introduced to technical and tactical skills, including positional skills and basic performance-enhancing techniques, e.g. warm-up, cool-down, nutrition, hydration, recovery, goalsetting, etc. This is a critical period for physical and skill development. The focus of training is on learning rather than competing, and a balance between training and playing is struck. Participants should continue to play a range of sports for their all-round development. This stage also includes initial identification for regional development squads.

3. Identification Stage (15-16 years): AFL Youth
Objective: developing higher-level skills of the game and physical capacities.

Optimise the development of fitness, individual, positional and team skills. Develop higher-level competition skills and provide appropriate competition to enhance learning and the opportunity to be identified for talent pathway programs.

At this age initial selection into state talent development programs including the AIS-AFL Academy are introduced.

4. Specialising Stage (17-18 years)
Objective: developing higher-level skills of the game and physical capacities.

Optimise the development of fitness capacities and individual, positional, team and competition skills.



For talented players, selection into state and national talent development programs, including the AIS-AFL Academy, continues. This includes the provision of an optimum competition program for player development that also provides opportunities to be drafted to the AFL, e.g. TAC Cup or state league competition.

5. Investment Stage (19-22 years)
Objective: complete development of all higher-level skills and capacities required for optimum performance.

This is the final stage of development, where the focus of the training is on completing a player's development and optimising performance.

For talented players, the refinement of physical, technical, tactical, mental and ancillary capacities is completed in the professional club environment.

6. Maintenance Stage (23-30+ years)
Objective: maintaining and maximising performance.

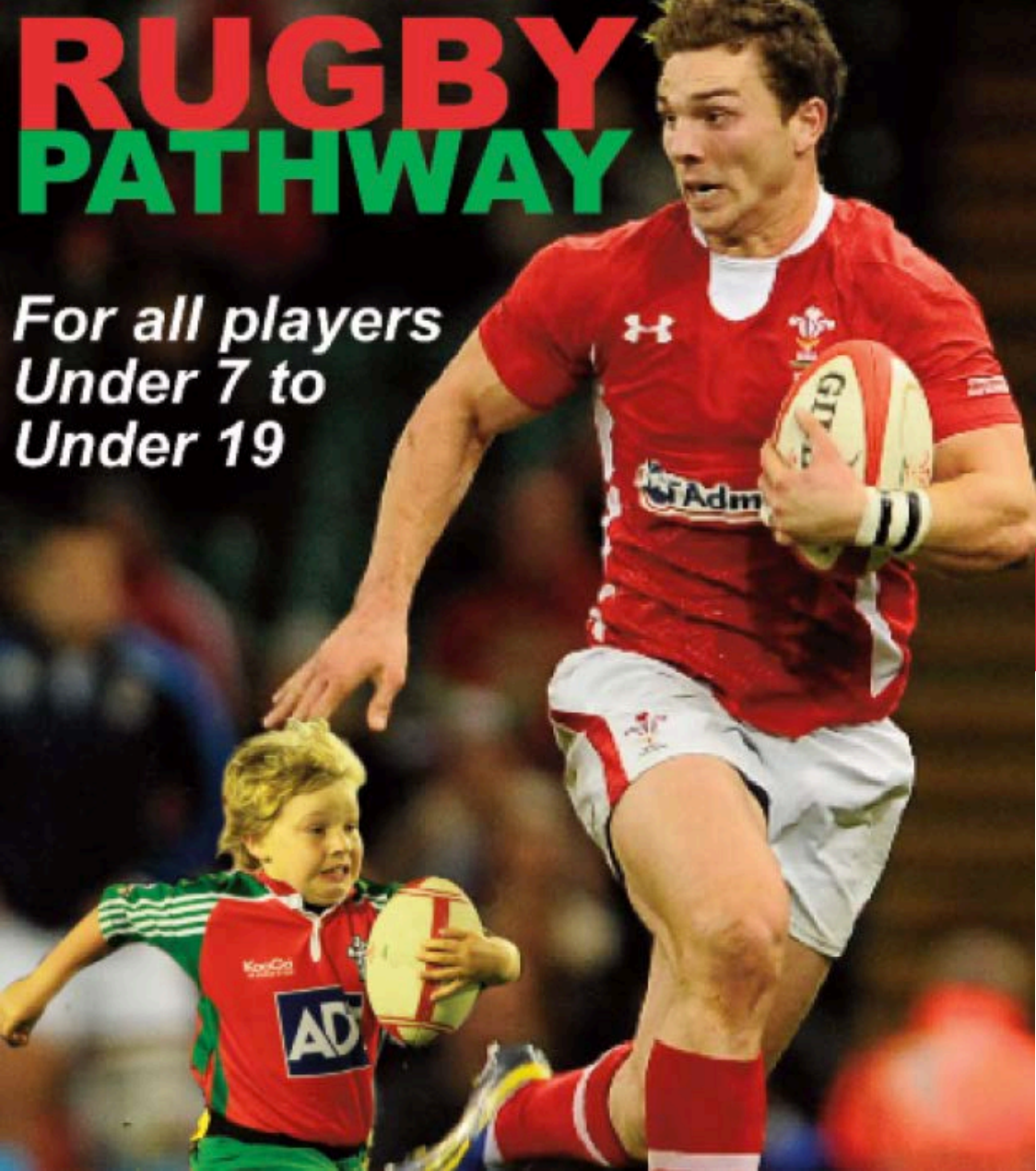
The players' physical, technical, tactical, mental and ancillary capacities are fully developed. The program is focused on competition and the training is aimed at optimising performance. Training is characterised by high intensity, relatively high volume and regular preventative breaks.

7. Retirement and transition stage (individual)
Objective: a successful transition from being a professional athlete to another productive role in life, including opportunities to remain in the sport.

This is the end of the high-performance competition stage, when players retire and move to other levels of competition or other roles, or out of football altogether. Continued physical activity is encouraged.

RUGBY
PATHWAY

For all players
Under 7 to
Under 19



Rugby Canada
Long-Term Rugby Development Model
2008



LONG TERM PLAYER DEVELOPMENT
FROM 6 TO 6 NATIONS

PREPARING FOR A LIFE IN SPORT
A GUIDE TO GOOD PRACTICE FOR ALL PEOPLE INVOLVED IN
Badminton

Administrators • Coaches • Clubs • Leaders • Officials • Parents • Players • Teachers



Fundamentals • Learning to Play • Training to Train • Training to Compete • Training to Win • Peak Performance
Long-term Athlete Development



NSCA COACHES CONFERENCE

Elite Player Performance Plan (EPPP)



"The number one stated aim of the Premier League's Elite Player Performance Plan is to create more and better home-grown players and the clubs are working hard not just at developing the on-pitch football skills of young players but also their holistic development" Premier League Director of Youth, Ged Roddy



The Long-Term Athlete Development model: Physiological evidence and application

PAUL FORD¹, MARK DE STE CROIX², RHODRI LLOYD³, ROB MEYERS³,
MARJAN MOOSAVI⁴, JON OLIVER³, KEVIN TILL⁵, & CRAIG WILLIAMS⁶

“...LTAD model has advanced coaches’ and practitioners’ understanding of the importance of physiological principles and biological maturation alongside training young athletes, there are many unexplained/ unsupported premises that undermine it.”



LONG-TERM ATHLETIC DEVELOPMENT- PART 1: A PATHWAY FOR ALL YOUTH

**RHODRI S. LLOYD,¹ JON L. OLIVER,¹ AVERY D. FAIGENBAUM,² RICK HOWARD,³
MARK B. A. DE STE CROIX,⁴ CRAIG A. WILLIAMS,⁵ THOMAS M. BEST,⁶ BRENT A. ALVAR,⁷
LYLE J. MICHELL,^{8,9,10} D. PHILLIP THOMAS,¹¹ DISA L. HATFIELD,¹² JOHN B. CRONIN,^{13,14} AND
GREGORY D. MYER^{10,15,16,17}**


NATIONAL STRENGTH AND CONDITIONING ASSOCIATION POSITION STATEMENT ON LONG-TERM ATHLETIC DEVELOPMENT

**RHODRI S. LLOYD,^{1,2} JOHN B. CRONIN,^{2,3} AVERY D. FAIGENBAUM,⁴ G. GREGORY HAFF,³
RICK HOWARD,⁵ WILLIAM J. KRAEMER,⁶ LYLE J. MICHELL,^{7,8,9} GREGORY D. MYER,^{9,10,11,12} AND
JON L. OLIVER^{1,2}**

THE 10 PILLARS FOR SUCCESSFUL LONG-TERM ATHLETIC DEVELOPMENT

The National Strength & Conditioning Association, JSCR, March 2016

Designed by @YLMSPortScience



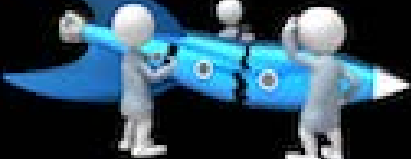


- 1.** Long-term athletic development pathways should accommodate for the highly individualized and non-linear nature of the growth and development of youth.

- 2.** Youth of all ages, abilities and aspirations should engage in long-term athletic development programs that promote both physical fitness and psychosocial wellbeing.

- 3.** All youth should be encouraged to enhance physical fitness from early childhood, with a primary focus on motor skill and muscular strength development.


- 4.** Long-term athletic development pathways should encourage an early sampling approach for youth that promotes and enhances a broad range of motor skills.

- 5.** Health and wellbeing of the child should always be the central tenet of long-term athletic development programs.

- 6.** Youth should participate in physical conditioning that helps reduce the risk of injury to ensure their on-going participation in long-term athletic development programs.


- 7.** Long-term athletic development programs should provide all youth with a range of training modes to enhance both health- and skill-related components of fitness.

- 8.** Practitioners should use relevant monitoring and assessment tools as part of a long-term physical development strategy.

- 9.** Practitioners working with youth should systematically progress and individualize training programs for successful long-term athletic development.

- 10.** Qualified professionals and sound pedagogical approaches are fundamental to the success of long-term athletic development programs.




2014 – USOC created **The American Development Model** to help Americans realize their full athletic potential and utilize sport as a path toward an active and healthy lifestyle.

Key principles of the ADM

- 1) Universal access to create opportunity for all athletes
- 2) Developmentally appropriate activities that emphasize motor and foundational skills
- 3) Multi-sport participation
- 4) Fun, engaging and progressively challenging atmosphere
- 5) Quality coaching at all age levels

5 STAGES TO A BETTER SPORT EXPERIENCE

The American Development Model is meant to explain an athlete's advancement through a pathway supporting a healthy sport experience based on their physical, mental and emotional level and potential for growth.



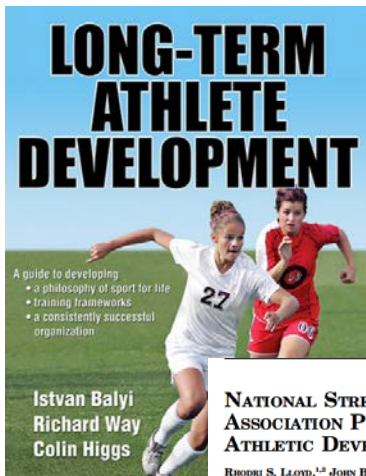
Sport NGBs that use or educate to ADM/LTAD in US

Sports that use ADM/LTAD in US

- Ice Hockey
- Tennis
- Ski and Snowboard
- Rugby
- Lacrosse
- Baseball
- Football
- Basketball
- Track and Field
- Volleyball
- NWBA
- Triathlon
- Weightlifting
- Swimming
- Field Hockey
- Golf
- Shooting
- Fencing
- Wrestling
- Soccer
- Field Hockey
- Diving
- Archery
- Equestrian
- Biathlon



[Teamusa.org/ADM](https://teamusa.org/ADM)



From brochures to the playing field

NATIONAL STRENGTH AND CONDITIONING ASSOCIATION POSITION STATEMENT ON LONG-TERM ATHLETIC DEVELOPMENT

RICHARD S. LLOYD,^{1,2} JOHN B. CRONIN,^{3,4} AVERY D. FARGENBAUM,⁵ G. GREGORY HAY,⁶ RICK HOWARD,⁷ WILLIAM J. KRAEMER,⁸ LYLE J. MICHELL,^{9,10} GREGORY D. MYER,^{11,12,13} AND JON L. OLIVER,¹⁴

¹Youth Physical Development Unit, School of Sport, Cardiff Metropolitan University, Cardiff, United Kingdom; ²Sports Performance Research Institute New Zealand, AUT University, Auckland, New Zealand; ³Center for Exercise and Sport Science Research, Edith Cowan University, Joondalup, Australia; ⁴Department of Health and Exercise Science, The College of New Jersey, Ewing, New Jersey; ⁵Department of Kinesiology, West Chester University, West Chester, Pennsylvania; ⁶Department of Human Sciences, The Ohio State University, Columbus, Ohio; ⁷Department of Orthopaedics, Division of Sports Medicine, Boston Children's Hospital, Boston, Massachusetts; ⁸Harvard Medical School, Boston, Massachusetts; ⁹The Michael J. Fox Center for Sports Injury Prevention, Boston, Massachusetts; ¹⁰Division of Sports Medicine, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio; ¹¹Department of Pediatrics and Orthopaedic Surgery, College of Medicine, University of Cincinnati, Cincinnati, Ohio; and ¹²Department of Orthopaedics, University of Pennsylvania, Philadelphia, Pennsylvania

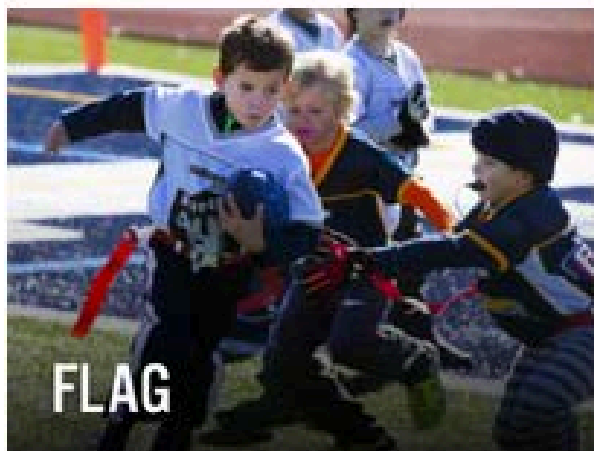
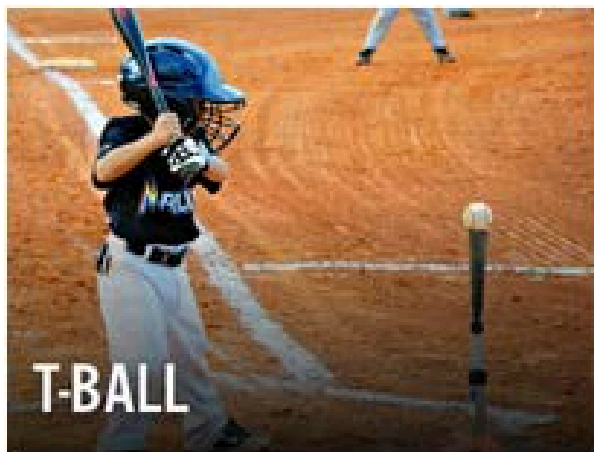
ABSTRACT

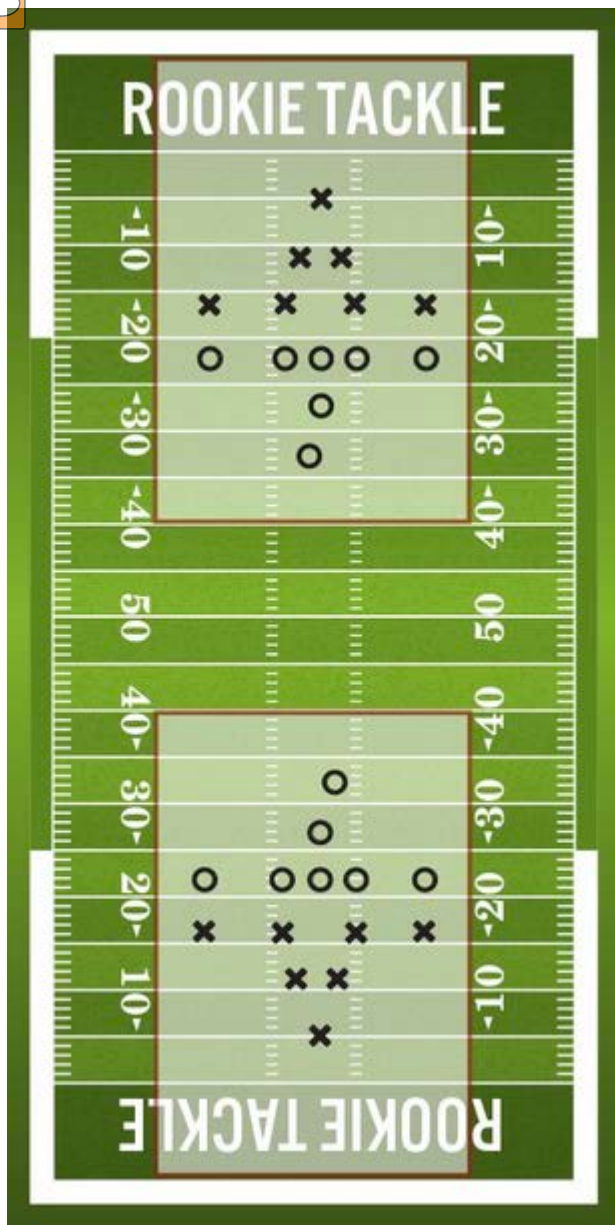
Lloyd, RS, Cronin, JB, Fargenbaum, AD, Hay, GG, Howard, R, Kraemer, WJ, Michell, LJ, Myer, GD, and Oliver, JL. National Strength and Conditioning Association position statement on long-term athletic development. *J Strength Cond Res* 30(8):1491-1509, 2016. There has recently been a growing interest in long-term athletic development for youth. Because of their unique physical, psychological, and social differences, children and adolescents should engage in appropriately prescribed exercise programs that promote physical development to prevent injury and enhance fitness behaviors that can be

the young bodies of modern day youth are often ill-prepared to tolerate the rigors of sports or physical activity. All youth should engage in regular physical activity and thus should be viewed as "athletes" and afforded the opportunity to enhance athleticism in an individualized, holistic, and child-centered manner. Because of emerging interest in long-term athletic development, an authorship team was tasked on behalf of the National Strength and Conditioning Association (NSCA) to critically synthesize existing literature and current practices within the field and to compose a relevant position statement. This document was subsequently reviewed and formally ratified by the NSCA Board of Directors. © 2016 National Strength and Conditioning Association

IMPLEMENTATION





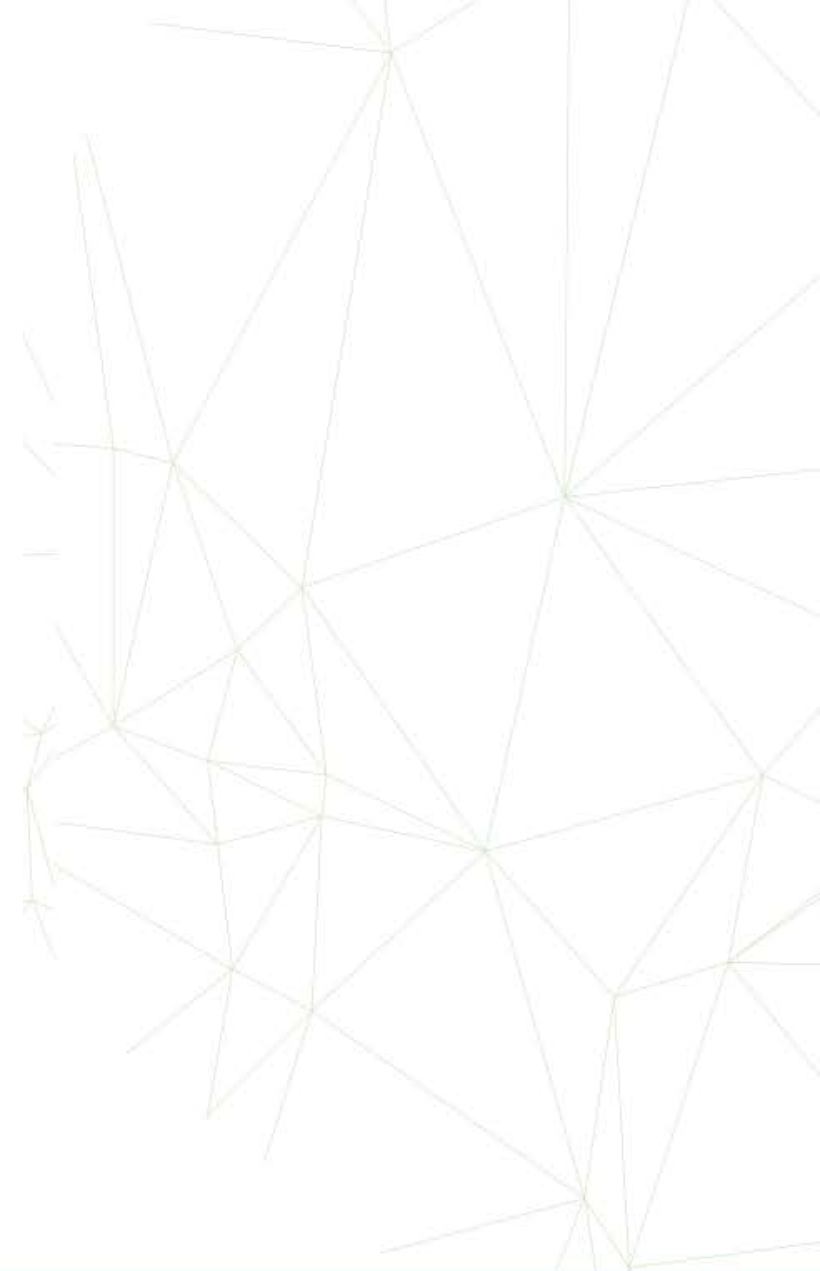


ROOKIE TACKLE OVERVIEW

- 6-7-8 players aside
- Reduced roster size; improved coach:player ratio
- Focus on fundamentals
 - Fundamental movement skills
 - Football-specific / Contact
- Position sampling
- No special teams
- Two-point stance
- Center uncovered
- No blitzing
- Coach education



2017 Rookie Tackle Pilot Program



Coach Education Clinic

Coaching Foundations 0:40 (includes practice plan and Life skills)

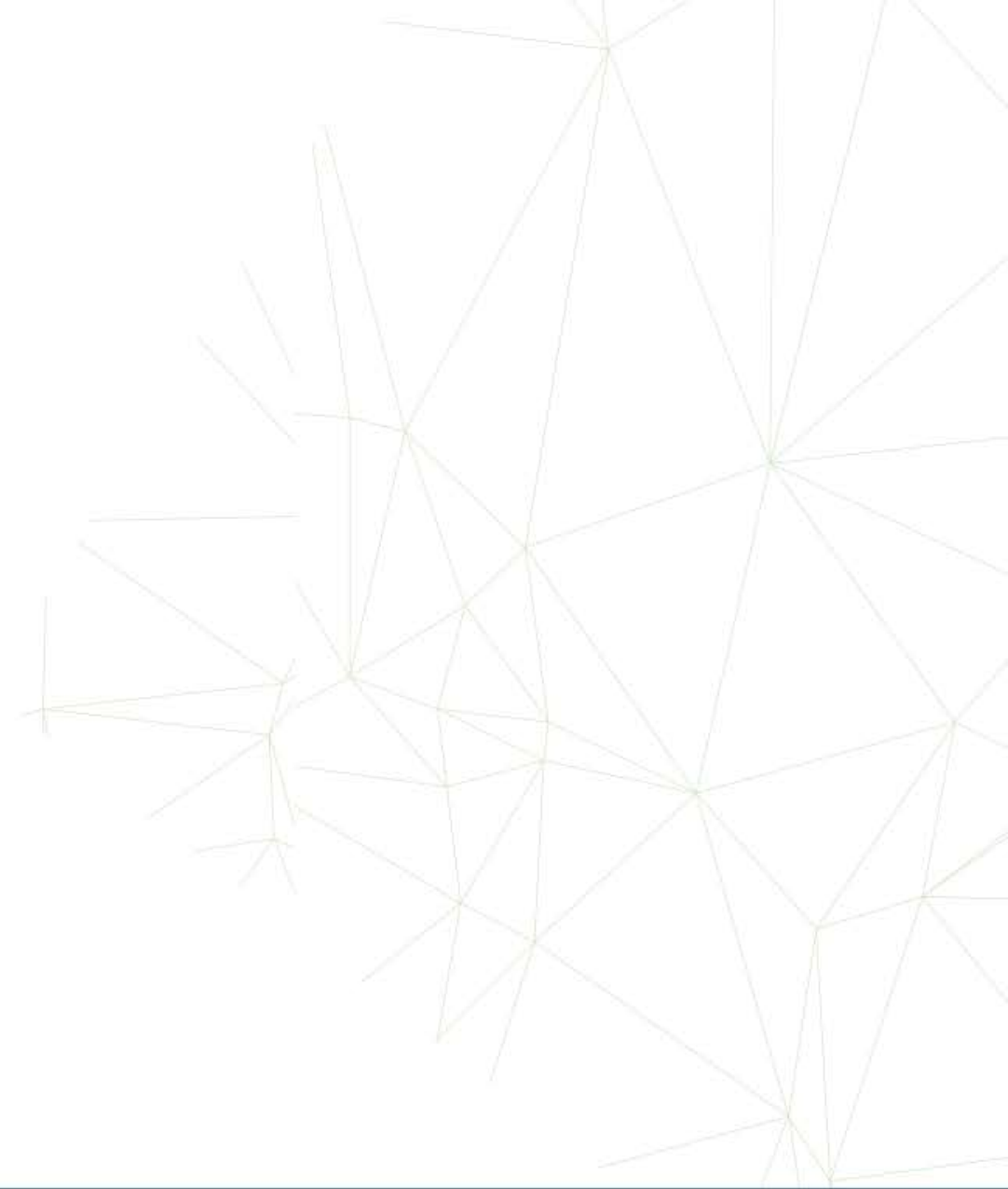
Health and Safety 1:00

Blocking :40

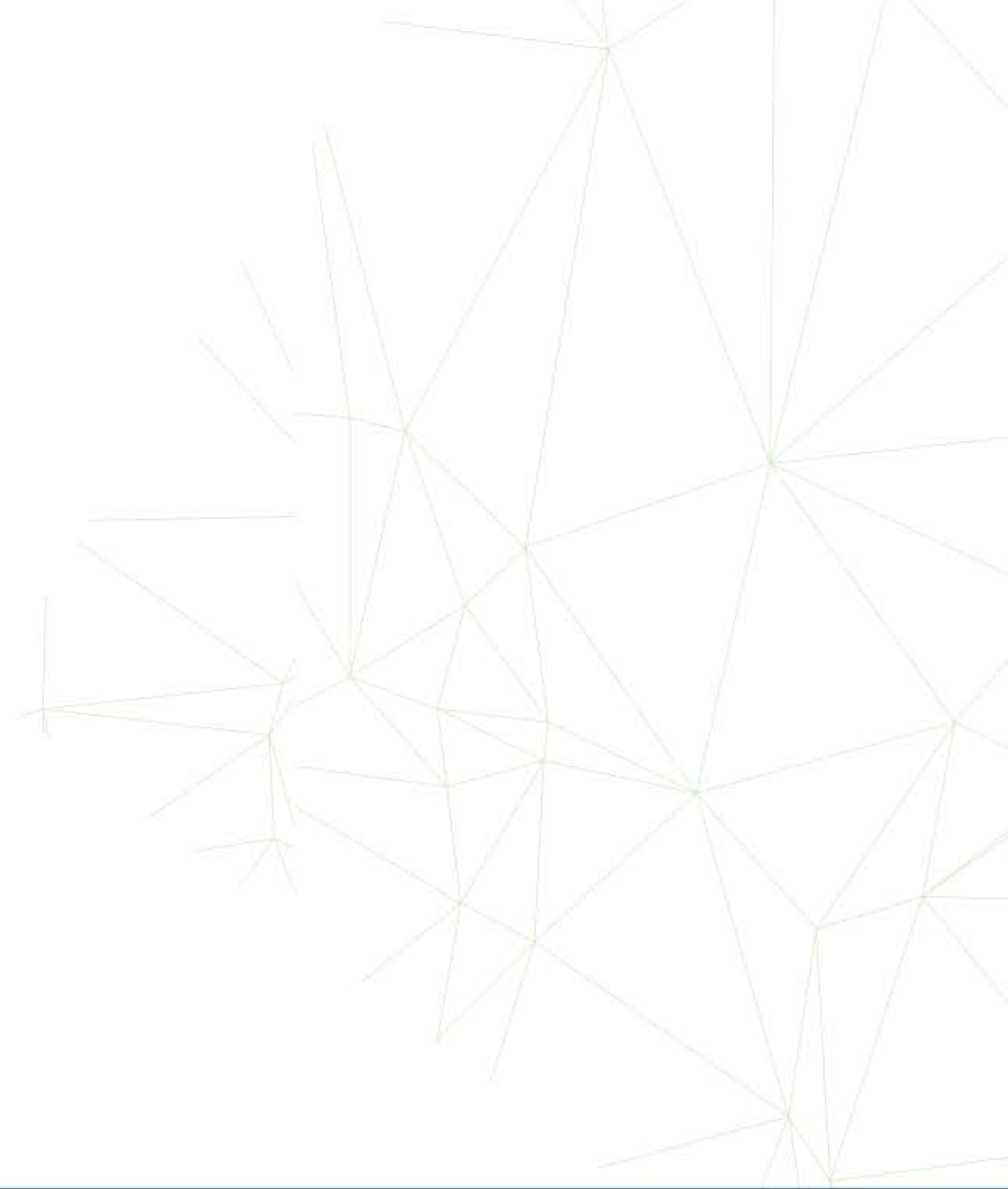
Tackling 1:00 – 0:45

Fundamental Movement 0:20

FB Skills 0:30 – 0:45



Action shots



Flag Football

- Trend for increased participation
- Concern for brain injury ... age to start tackle

Saints QB Drew Brees launching co-ed youth flag football league



Mike Triplett
ESPN Staff Writer

Jun 28, 2017

Padded Flag Football



LTAD is more than GAME TYPES!



ABC



C _ T



Key principles of the ADM

- 1) Universal access to create opportunity for all athletes - **students**
- 2) Developmentally appropriate activities that emphasize motor and foundational skills
- 3) Multi-sport participation - **multi-subject (reading, math, science, etc.)**
- 4) Fun, engaging and progressively challenging atmosphere
- 5) Quality coaching at all age levels – **quality teaching**



The Role of the Strength & Conditioning Coach



The S&C Coach's Skillset

Fundamental Movement Skills

Body Control

Agility
Balance
Coordination
Speed
Rhythm
and more



Locomotor

Running
Jumping
Swimming
Wheeling
Skating
and more



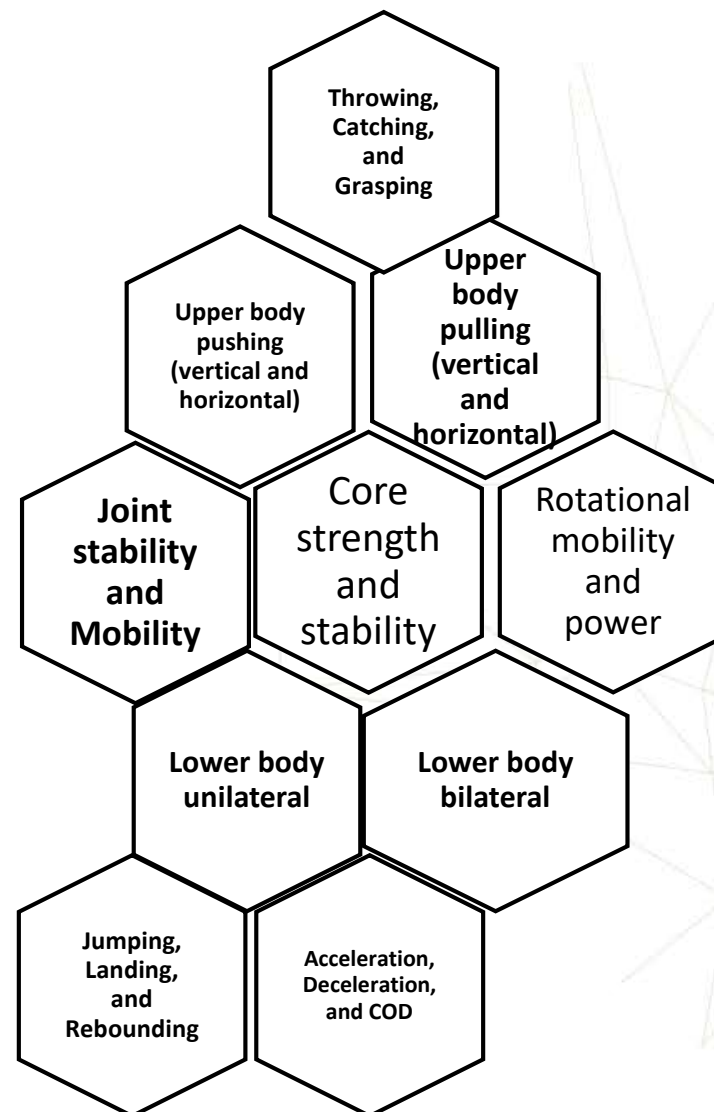
Object Control

Sending
Receiving
Dribbling
Striking
Kicking
and more

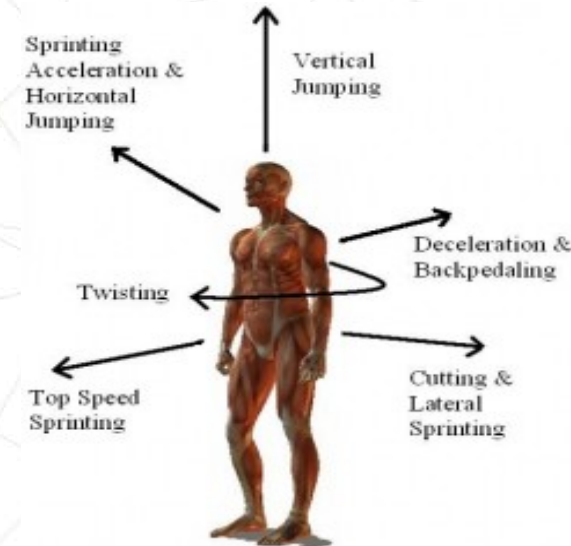


 Sport for Life

Version 2.0—September 2016



From Lloyd & Oliver



The Six Load Vectors in Sports



Squat



Hip hinge



Vertical Jump



Broad Jump

Lunge



#LTAD

1 - BREAKDOWN



2 - SWOOP



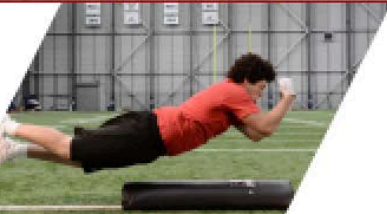
3 - NEAR FOOT



4 - UPPERCUTS



5 - SHOOT

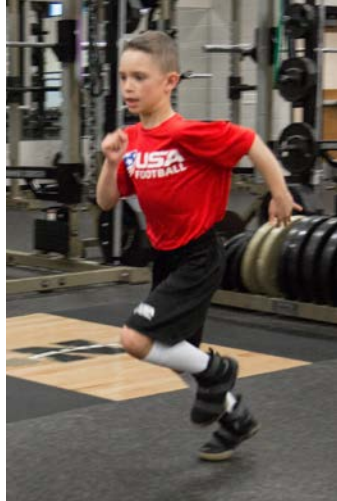




Hop



Skip



Run

Backpedal



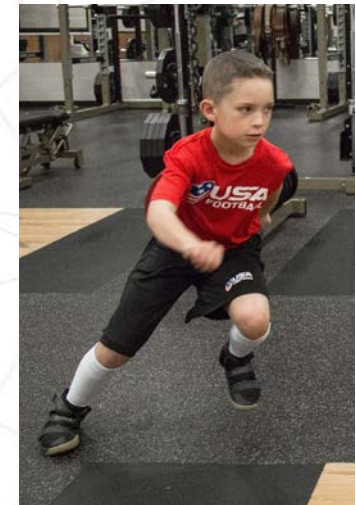
Shuffle



Lunge



Decelerate



Cut



Run

Backpedal

Shuffle

Fundy movement

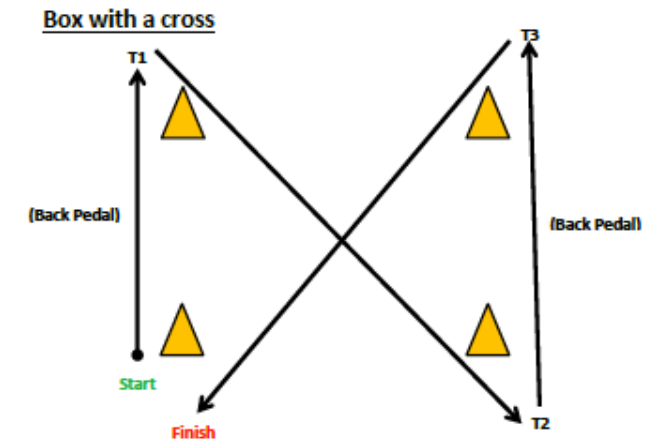
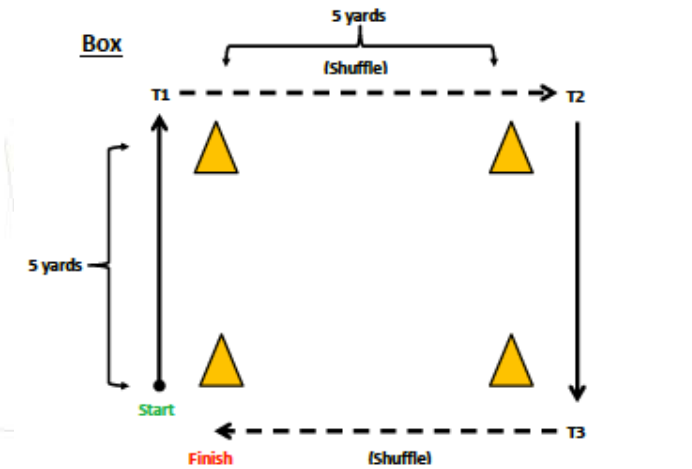


Deceleration



Simple introductory progression

- Forward to decelerate on right (left) foot to backpedal
- Forward to decelerate to shuffle to right (left)
- Backpedal to decelerate to shuffle right (left)
- Shuffle to forward
- Shuffle to backpedal



Planned Multidirectional COD



Reactive Agility

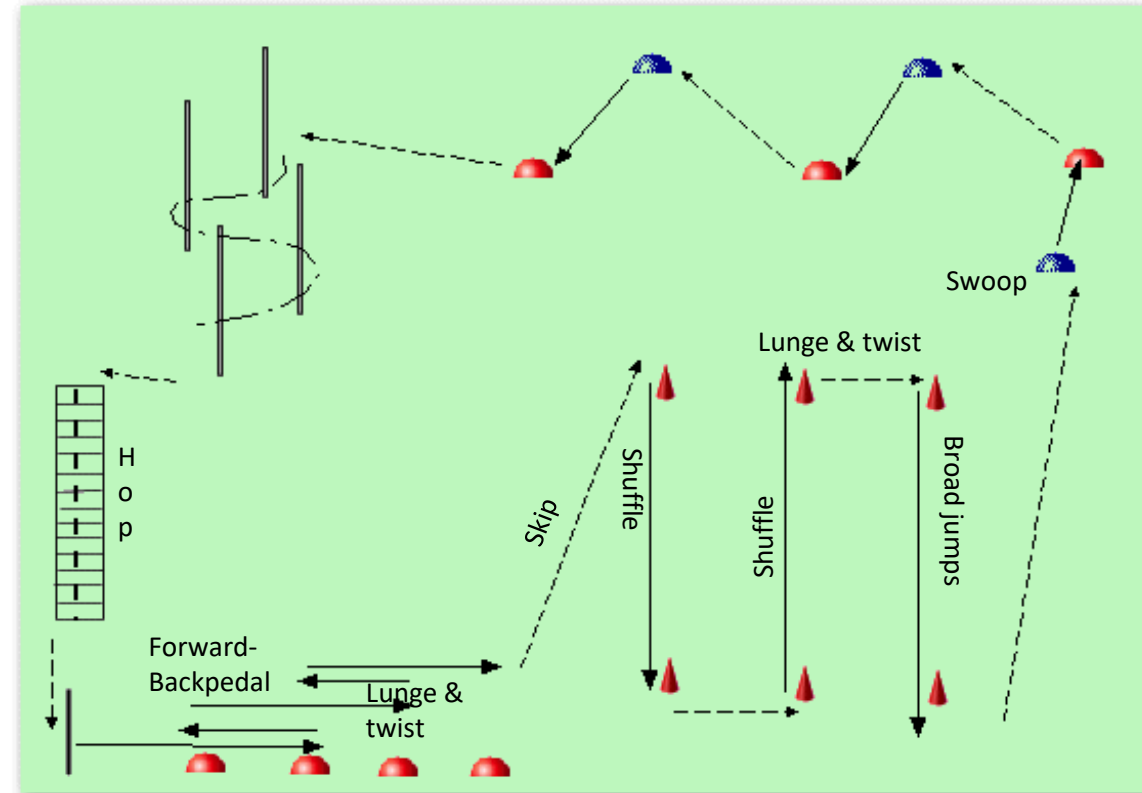


Ryan Horn @ryanhorn45 · 37m

The warm-up isn't just a formality or obligation it's an opportunity to train, evaluate, invest & develop your student-athletes. Use it to your advantage. [#microdosing](#)



and before they get to college (and high school) it's a great opportunity for fundamental movement skill acquisition. [#microdosing](#)





TSAC Practitioners Course

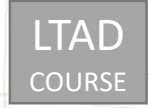
The TSAC Practitioners Course is the most comprehensive program on the market for tactical professionals. The TSAC Practitioners Course will be offered in regional locations throughout the year. Space will be extremely limited to ensure a high trainer-to-student ratio.

[Learn More](#)



Foundations of Coaching Lifts

The NSCA's Foundations of Coaching Lifts: Hands-on Approach to Coaching Lift Progressions Certificate Course lays the groundwork for teaching athletes and clients how to properly perform fundamental lifts.



NSCA LTAD Course – in progress



• Nutrition

• Curriculum

- Overall food pattern / Performance Plate
- Energy Balance
- Timing of intake / “Power Hour”
- Hydration
- Supplements & Energy Drinks



• Mental skills

- Goal setting & monitoring
- Self-talk
- Imagery / visualization
- Relaxation under Pressure
- Routines / Arousal regulation
- Focus & Concentration



• Recovery / Athletic health

- Nutrition
- Sleep
- Recovery techniques
- Special topics (cold-flu season, etc.)

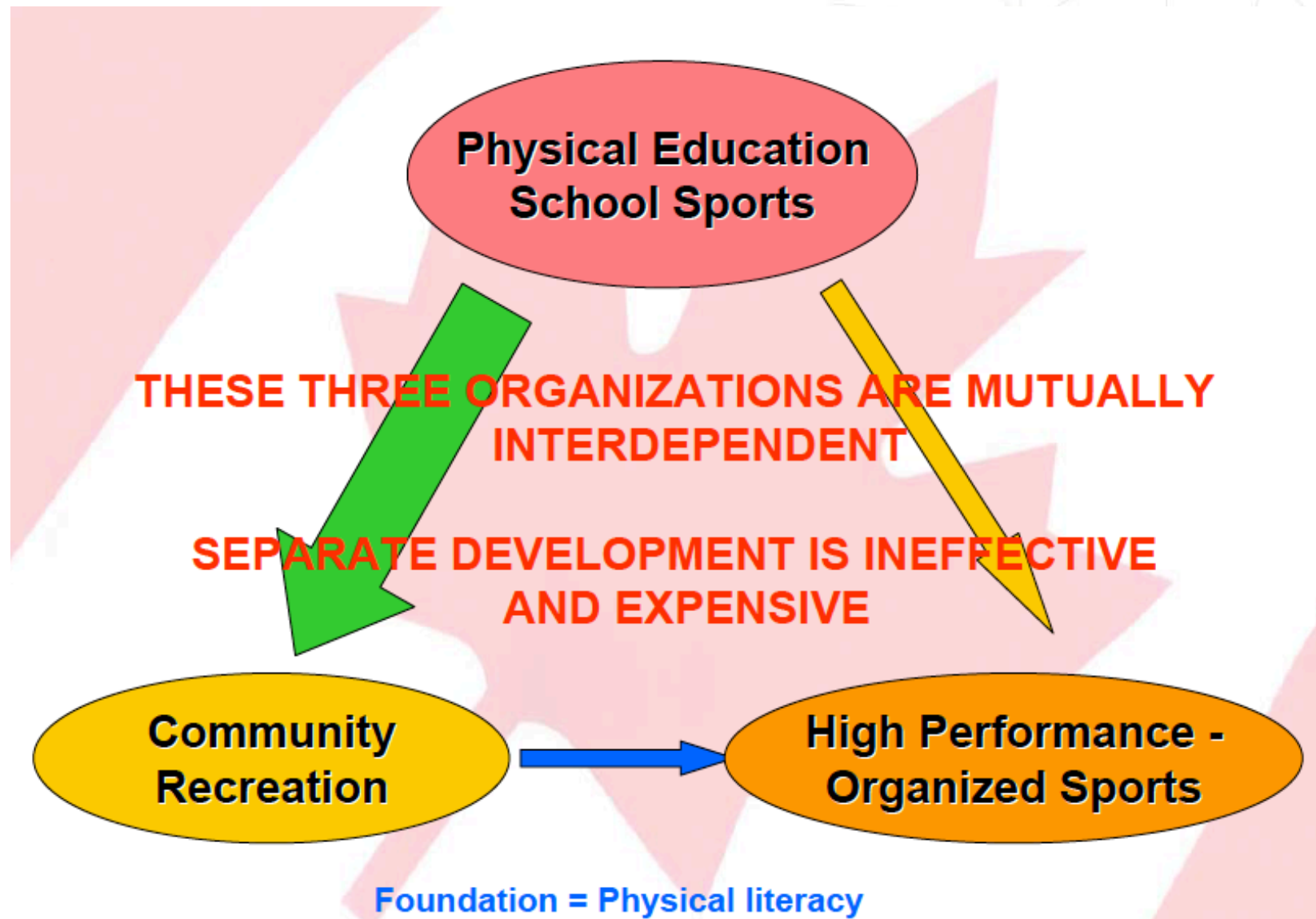
Roles of a S&C Coach

- Coach education & Leadership
 - Coaching behavior
 - Practice Planning
 - Leadership
- **Director of Coaching (D.O.C.)**

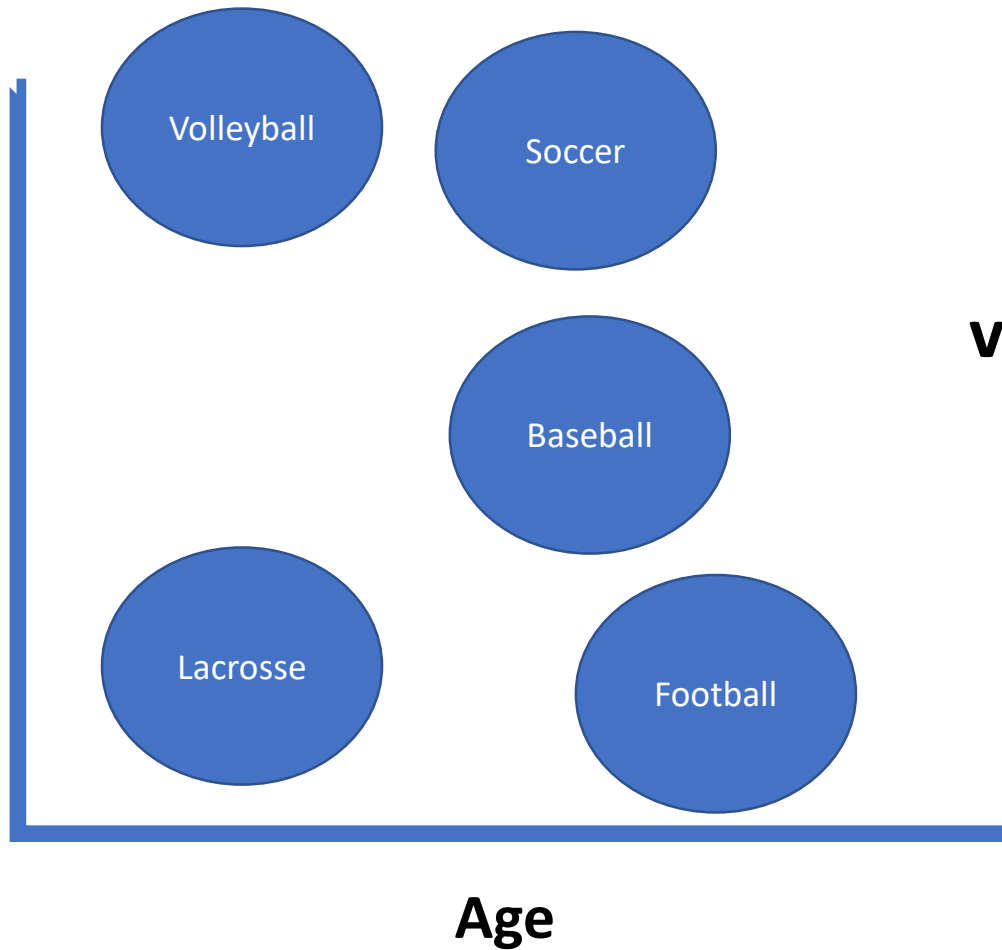


CHALLENGE

System Alignment and Integration



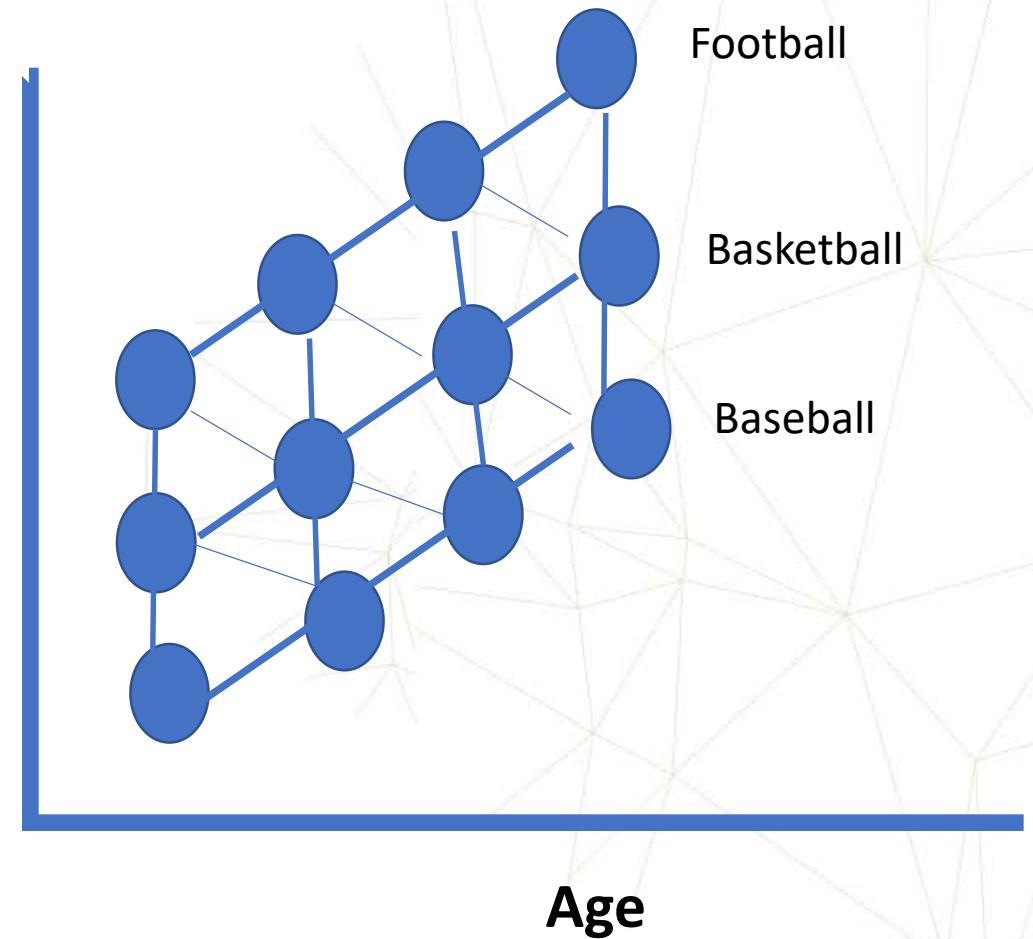
Individual Teams or Clubs



versus

LTAD Community

Age-appropriate | Collaborative | Integrated





Joe Eisenmann, PhD

jeisenmann@usafootball.com

[@Joe_Eisenmann](https://twitter.com/Joe_Eisenmann)