

Archery: Coaching Young Athletes



excelsior
ENHANCING SPORTS PERFORMANCE

**Developing
Fundamental
Movement Skills**

Long Term Athlete Development



Make a long term commitment

Long Term Athlete Development (LTAD) is a strategy for helping youngsters progress at an appropriate rate, and to maximise their physical potential.

It is tempting to want immediate results and seek “quick fix” solutions to problems, however LTAD is needed to:

- **Optimize performance**
- **Reduce risk of sports-related injuries**
- **Lessen likelihood of “drop-out”**
- **Produce elite level athletes**

“An estimated 15% to 50% of all injuries sustained by youth while playing sports could be prevented if more emphasis was placed on developing fundamental fitness abilities prior to sports participation”

LTAD focuses on developing physical and technical skills “Physical Literacy” in an appropriate, progressive manner. This should involve moving through continuum of:

- **simple to complex**
- **slow to fast**
- **stable to unstable**
- **planned to reactive**

Skills on each scale should be perfected at the first stage before progressing onto the next

Physical Literacy

What is Physical Literacy?

Physical Literacy refers to the capability of an individual to effectively perform a range of “motor-abilities” in various positions and planes of movement. These form the basis of fundamental movement skills and are related to sport skill achievement.

Motor Abilities include:

- Static, Dynamic and Explosive Strength
- Trunk Strength
- Flexibility
- Whole body coordination
- stamina

These skills form the foundation for more advanced sport-specific movements later in life and should be mastered before sport skills. Young athletes who become proficient in fundamental motor skills and perceive themselves to be more skilled are more likely to participate in challenging activities and find sport participation more enjoyable than youth with low motor competence.

Avoid sport specialization before adolescence

Broad-based participation in a variety of activities during the primary school years and perceived sports competence during childhood are related more to adolescent physical activity and fitness than early sports specialization. Moreover, participating in several sport and exercise activities seems to decrease the risk of musculoskeletal disorders which are more often associated with single sport participation

Young athletes should be exposed to a variety of sports and exercise activities in a variety of settings with different young people so they can discover what they enjoy while maximizing their physical, psychological and social development.



Fundamental Movement Skills

Many of the Fundamental Movement Skills can be directly beneficial to Archery

1) Stability

- Balancing- *maintaining centre of gravity above base of support*
- Stretching- *being able to efficiently hold different postures*
- Twisting- *rotating parts of upper body/ resisting rotation of torso*
- Pushing- *strengthening front shoulder*
- Pulling (drawing)- *strengthening rear shoulder during rotation*

2) Locomotor

- Walking/Running- *important for developing efficient aerobic system*
- Jumping- *developing lower body strength and stability*
- Hopping- *lower body stability and coordination*
- Skipping- *coordination and timing*
- Climbing- *increasing upper and lower body strength*

3) Manipulative

- Throwing (over and under arm)
- Catching
- Striking
- *All good for improving hand-eye coordination and accuracy*



*taken from Physical Literacy Concept Paper (Mandigo et al., 2007)

Stages of Development

Active Start (0-6 years)

Physical activity is essential for healthy child development from 0-6 years of age. Brain growth is extremely rapid during the first three years, and learning creates more brain cell connections than in later years.

Activity should always be fun rather than something they are forced to do as this will reduce enjoyment.

What this means for Archery

Youngsters towards end of stage may attend school clubs or coaching sessions, aim to include as much varied physical activity as possible. Make tasks into games and use objects to throw at targets rather than using full archery equipment

Physical Development

- Children benefit from activity, with regular rest. Children lack muscular endurance
- Energy is directed towards mastering bodily control
- Locomotor movements are required for most activities
- Percentage of muscle mass is increasing, body fat is decreasing
- Gross motor skills easier than fine motor skills
- Beginning of object handling- some skills may be easier than others

Implications

- Alternate periods of intense activity with periods of less strenuous activity
- Activity without equipment is important
- Varieties of jumping, skipping, hopping, rolling etc should be used
- Activities that promote agility and flexibility are beneficial
- Do big movements that use lots of muscle groups
- Less time should be spent on these skills, but some throwing with small objects can be implemented effectively

*Table taken from Physical Literacy Concept Paper (Mandigo *et al.*, 2007)

Stages of Development

FUNdamentals (girls 6-8yrs, boys 6-9yrs)

Development during this stage should concentrate on developing the ABCs – of:

- Agility
- Balance
- Coordination
- Speed

Although quality, positive instruction is needed, development is best made through games and fun activities rather than “training plans”.

What this means for Archery

Manipulative skills are starting to improve so beginning using suitable sized archery equipment is appropriate at this stage.

Fundamental movements should be used as part of every session, e.g. as part of warm up before shooting.

Physical Development

- Children need vigorous activity
- Steady increase in height and weight, legs growing rapidly
- Centre of gravity is near adult location
- Children have improved ability to focus eyes and track objects
- Manipulative skills are slowly growing
- Children are mastering locomotor movements

Implications

- Every child should partake in maximal activity for as long as possible
- Much repetition of previously acquired skills, in varied situations
- Repeat simple challenges which require balance
- Catching, dribbling with hands and feet slowly improving
- Start by hitting stationary object, progress to moving/unpredictable objects later in stage, more use of body when throwing
- Much repetition of all locomotor activities is needed

Stages of Development

Learning to train (girls 8-11 yrs, boys 9-12yrs)

Although many individuals may be competing, for best long-term results **70%** of time should be spent in **practice**, with only **30%** on **competition**.

The brain is nearing adult size and complexity and is capable of very refined skill performance. Late developers have an advantage when it comes to learning skills as this stage lasts longer for them.

What this means for Archery

Technique will be improving due to enhanced manipulation skills, technique should be main focus rather than results.

A small scale structured conditioning plan may be implemented

Allow for variations in development and don't "write anyone off"

Physical Development

- Children need vigorous activity
- Individual differences become obvious in physical stature and ability
- Growth changes occur, usually faster in females
- Rapid development in strength and control of gross and fine motor skills
- Flexibility may begin to decrease, especially in boys

Implications

- Every child should partake in maximal activity for as long as possible
- Children should be able to work at own level and progress at own rate
- Plan activities that provide for differences in physical and emotional maturity
- Complex skills are being refined and applied to sport specific skills
- Promote activities with develop flexibility e.g. mobility in warm up

Quality of Movement

Children and adolescents are still growing and maturing, and therefore require a specific approach to physical preparation. This should be determined on an individual basis by:

- **Coordination**
- **Posture control**
- **Movement mechanics**
- **Physical and psychological development.**

Training young athletes involves balancing the demands of “hard” training (required for adaptation) with the need for less intense training (also required for adaptation). While any coach can make an athlete tired, successful youth coaches understand and value the importance of developing **quality movement patterns** and **enhancing exercise technique** with less intense training sessions. A “more is better” approach will likely result in injury, illness or burnout

Maximize recovery

Youth coaches need to pay just as much attention to what is done between practice sessions as to what is done during practice sessions. Sports practice, competitions and conditioning activities place a great amount of stress on young athletes. Recovery strategies can include:

- **Active cool-down**
- **Adequate hydration**
- **Proper nutritional interventions**
- **Relaxation strategies (such as socializing with friends)**
- **At least 8 to 9 hours of sleep per night.**

Action Plan

5³ Weekly Exercise Plan

Our 5³ exercise plan helps young athletes develop fundamental movement skills in a manageable way

The Plan consists of 5 exercises, each performed for 1 minute (5mins a day), each day (5 days a week).

The exercises consist of a variety of different movements and elements of physical fitness, including: flexion, extension, rotation, stabilisation, mobility and posture

The exercises should be performed by first learning and practising good technique, before increasing the amount of each exercise performed in 1 minute

Welcome to an easy way to prevent injuries and improve your athletic performance.

- It takes just 5 minutes of your time for 5 days a week.
- Do each exercise for up to 1 minute each.
- Work on control, balance and technique. Then increase the amount you can do in 1 minute.

| DAY 1 | DAY 2 | DAY 3 | DAY 4 | DAY 5 |
|---|---|---|--|---|
| WALK OUT PRESS UP: Good for upper body strength. | 6 WALL LUNGE: Good for leg strength and knee stability. | SCORPION: Good for back flexibility and hip flexor and quadriceps strength. | FROG SQUAT TURNS 180°: Good for leg strength and knee stability. | LUNGE SQUATS: Good for leg strength and knee stability. |
| SIT THRUSTS: Good for leg strength and power. | SIT THRUSTS: Good for upper body strength. | ELEPHANT SQUATS: Good for core. | PLANK WALKS TO FEET: Good for upper body strength and core. | PLANK SQUATS: Good for upper body strength and core. |
| LATERAL HOP AND PRESS: Good for leg strength, balance and knee stability. | LUNGES: Good for upper body strength. | HINDU PRESS UP: Good for upper body strength. | SIT SQUAT: Good for leg strength and knee stability. | HINDU SQUATS: Good for leg strength and balance. |
| BACK THRUSTS: Good for back strength. | OVERHEAD SQUAT: Good for leg strength and knee stability. | SIT SQUAT: Good for leg strength and knee stability. | FROG SQUAT: Good for leg strength and knee stability. | PLANK SCORPION: Good for shoulder strength. |
| PLANK STRETCH WALK: Good for leg flexibility. | PLANK SUPERMAN: Good for core. | CRAB WALK: Good for lower leg strength and balance. | SIT SQUAT: Good for leg strength and knee stability. | PLANK STRETCH WALK: Good for abdominal strength. |

TAKE FIT ALL YEAR LONG WITH EXCELSIOR

WWW.EXCELSIORGROUP.CO.UK