

Young Athlete Conditioning

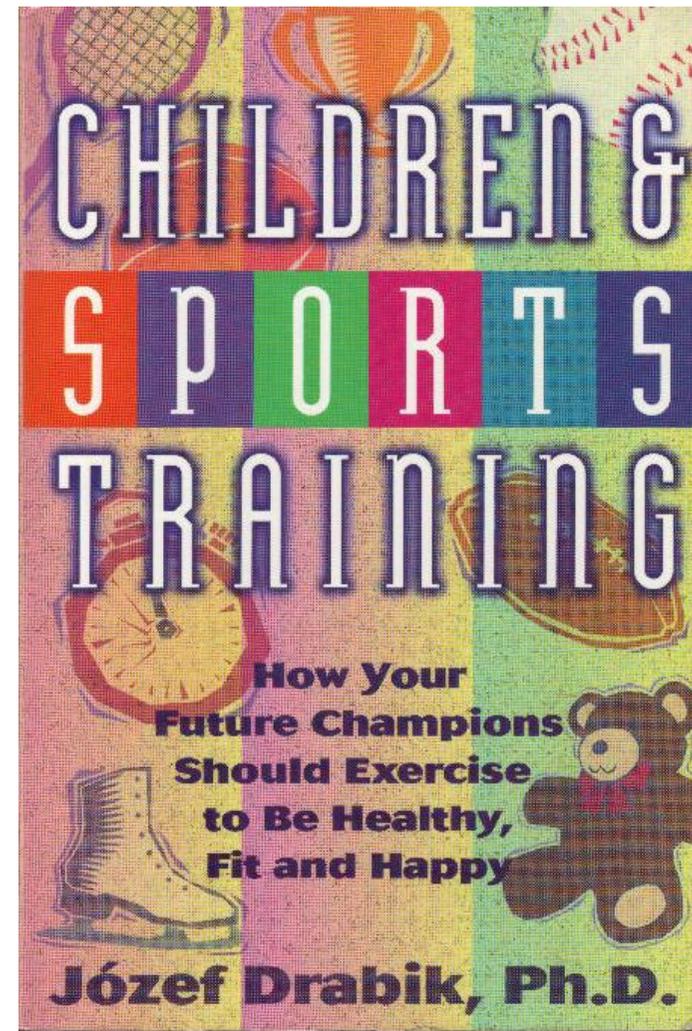
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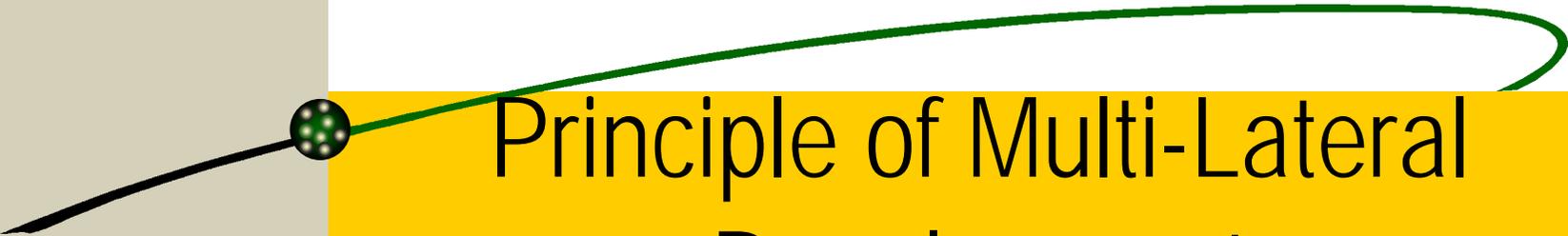
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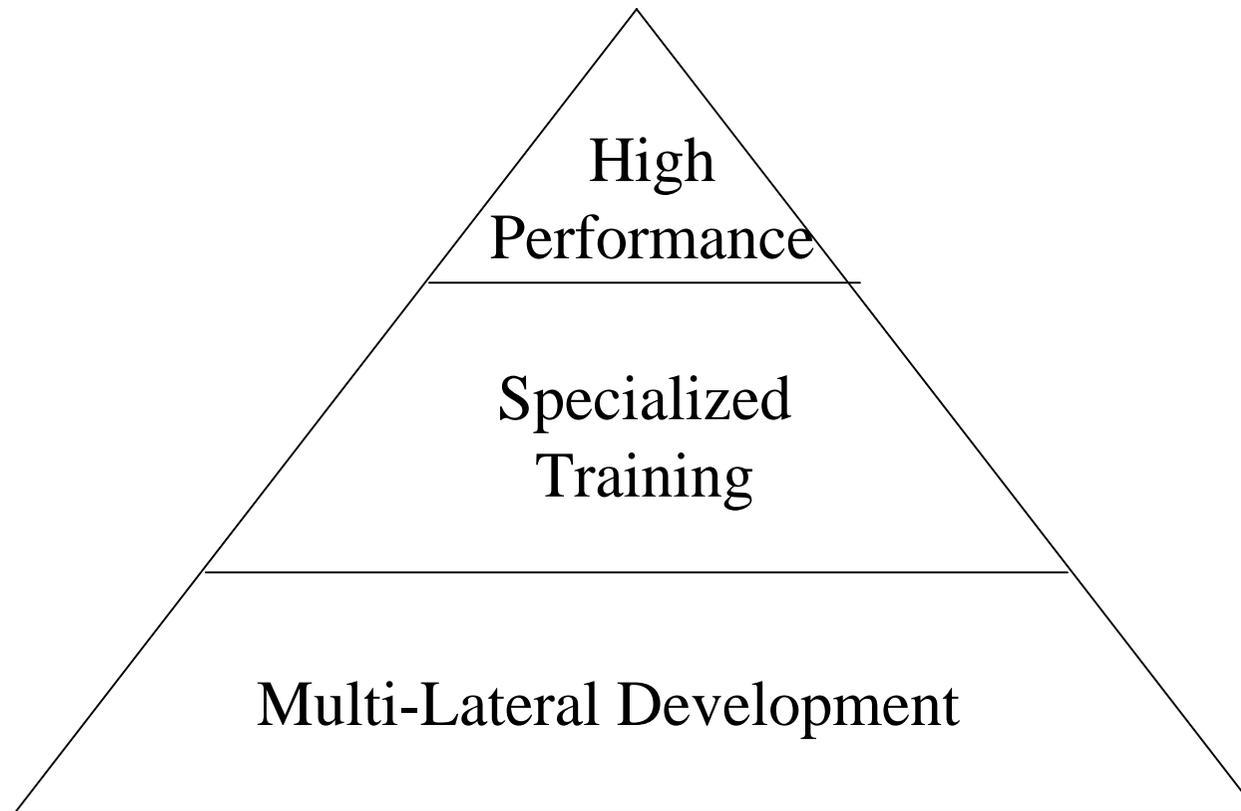
Reference

- ✚ Children & Sports Training
 - Jozef Drabik
 - Stadion Publishing
 - ISBN
 - 0-940149-02-8 (Hard)
 - 0-940149-03-6 (Soft)





Principle of Multi-Lateral Development





Multi-Lateral Development (MLD)

✦ What are MLD exercises?

These are exercises that aim to incorporate as many physical abilities as possible

- Strength
- Power
- Coordination
- Flexibility
- Endurance
- Core strength
- Etc.



Multi-Lateral Development (MLD)

✦ What benefits come from MLD exercises?

Improved athlete conditioning

- Increased joint strength and stability
- Increased connective tissue strength
- Improved bone density and tendon attachments
- Improved balance & spatial awareness

Improve athlete's tolerance to training

Physiologically and Psychologically



Starting, Specialising & High Performance Ages

SPORT	Begin Practice	Age of Specialisation	Age to High Performance
Track and Field	10-12	15-16	20-35+
Basketball	7-8	12-14	20-35
Gymnastics	6-7	10-11	14-28
Tennis	4-6	12-14	17-26
Golf	6-8	14-16	25-45



Sensitive Training Periods

✦ Coordination	5-8
✦ Speed of Reaction	8-10
✦ Explosive Strength	10-12
✦ Maximal Speed	10-14
✦ Maximal Strength	12-14
✦ Strength Endurance	12-14
✦ Anaerobic Endurance	14-16



Training Modalities

✦ Body weight exercises

- Excellent for developing strength and strength endurance
- Control over one's body more important than the ability to lift a large weight
- Adding as many motor pattern programs as possible

Body Weight Exercises





Training Modalities

✦ Medicine ball exercises

- Excellent for developing total body coordination, power, speed, strength, endurance, etc.
- Makes up the core of all our programs.
- E.g.
 - Medicine ball partner exercises
 - Rudiment exercises
 - Med ball throw to sprint exercises

Medicine Ball Exercises



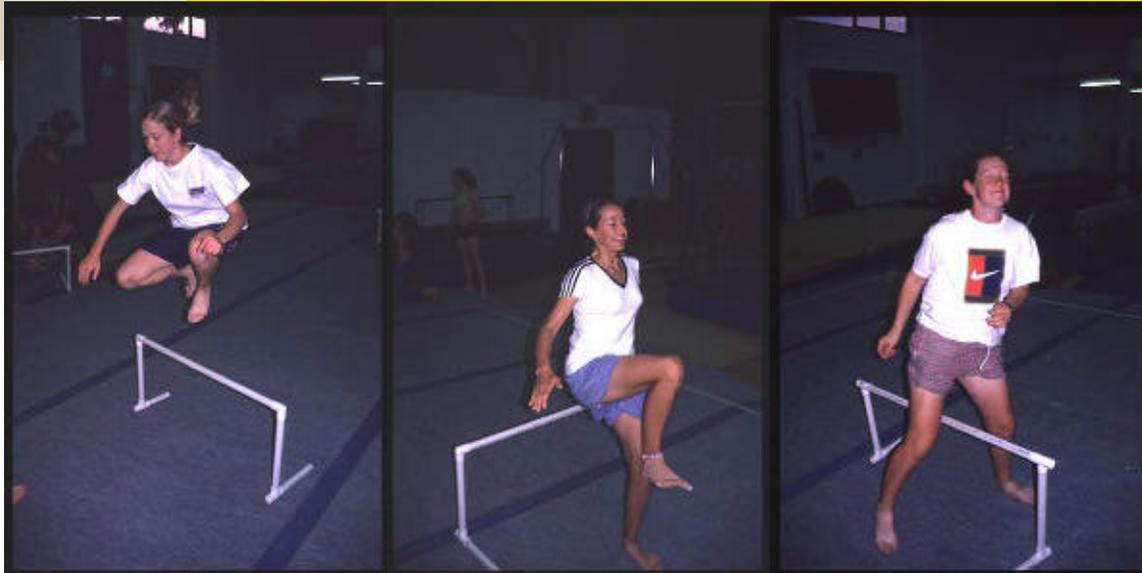


Training Modalities

🌟 Hurdle & Mini Hurdle exercises

- Develop power, speed, strength, coordination
- Great way to introduce plyometrics and add a fun/challenging aspect to this activity
- Excellent for developing spatial awareness
- Mini hurdles develop better feet timing, speed of movement, coordination, agility.

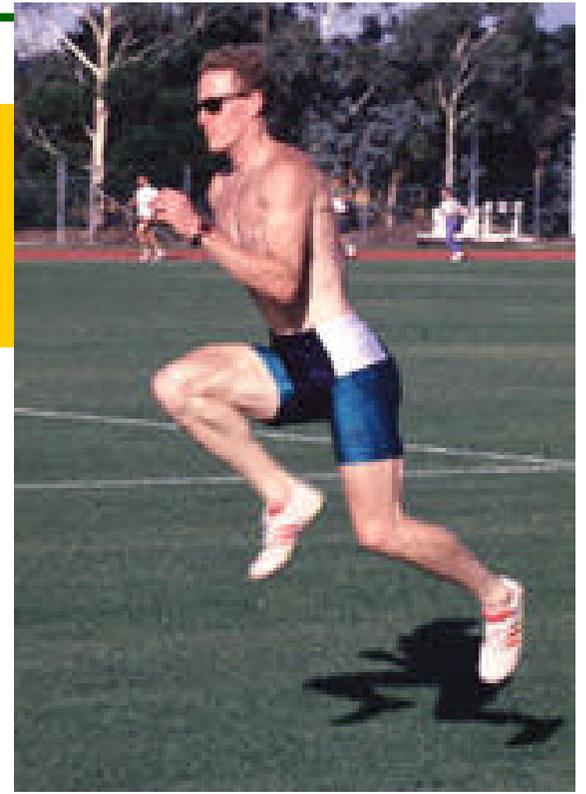
Hurdle & Mini Hurdle Exercises





PLYOMETRIC EXERCISES

- ① LOW IMPACT REACTIVE JUMPS
- ② DOUBLE LEG JUMPS
- ③ ALTERNATE LEG BOUNDING
- ④ SINGLE LEG JUMPS (HORIZONTAL)
- ⑤ SINGLE LEG JUMPS (VERTICAL)
- ⑥ SHOCK (DROP) JUMPS
- ⑦ DEPTH (REACTIVE) JUMPS

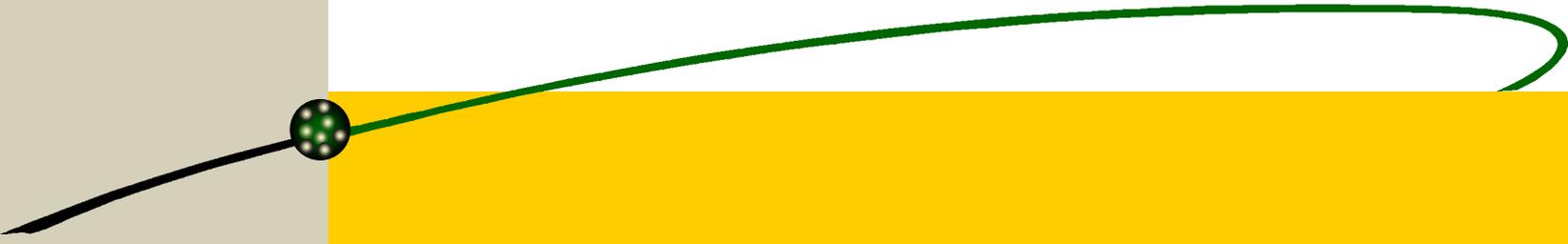




SPEED-RESISTED TRAINING

- ✦ Sprinting is one of the most explosive powerful actions that an athlete can perform.
- ✦ Regular speed drills and sprints will increase power development.
- ✦ Maximal neural activation takes place by maximal strength and/or speed training
 - Second option only available for young athletes



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- conditioning of young distance athletes should be no different to that of a potential sprinter, jumper or thrower
 - the facts show that our young people need conditioning full stop!
 - Their soft lifestyle has led our young athletes to be physically inferior to their counterparts in the distance 'meccas' of the world

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- When we first see an athlete they are already along way behind and our biggest mistake is we as coaches (and parents) want results quickly from our 'inferior models'
 - We must learn to be patient and invest more time into the development of the athletes
 - Successful distance runners need an accumulated volume of work put in over a long period of time before any real benefits are reaped.

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- In Kenya/Ethiopia children accumulate this 'play volume' much earlier than our young athletes and so are able to increase their training loads in their late teens without the dire consequences that we have seen in Australia



CONDITIONING YOUNG DISTANCE ATHLETES FOR LONGEVITY

KEY PRINCIPLES

Non-Event Specific

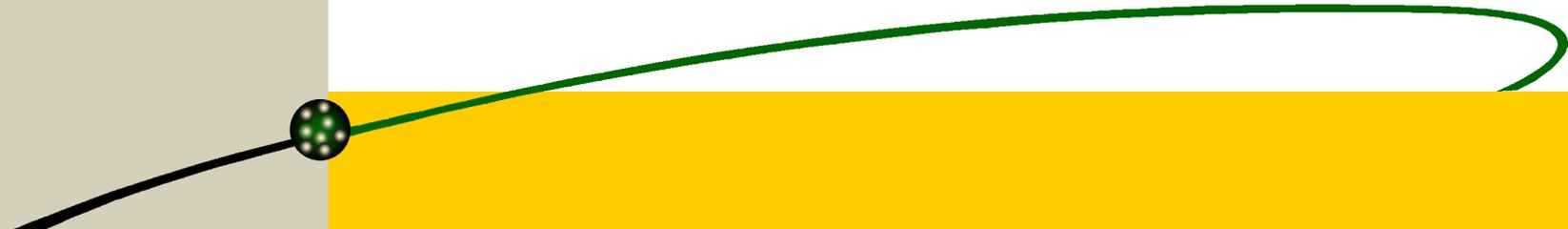
- **PLAY** - Think simply and go back to the basics and remember your childhood – climb trees, chop wood, incorporate games into training
- **NUTRITION** – Educate parents and athletes from the start.



Stress the basics and why
eg calcium for bone density, protein and iron for
making new RBC (which carry oxygen) and
muscle repair (protein).

Big emphasis on fluid replacement/hydration

Increase the knowledge as athlete can
understand more



- REGULAR BLOOD TESTS –(older athletes eg 15+)

- * these are a must as athlete increases volume and girls in particular once they start menstruating
- * Ferritin levels are good indication of how athletes are handling and absorbing training



- MUSCULOSKELETAL SCREENING

- * Find a good physio and go with your athlete
- * Knowing weaknesses and potential problems from the onset will save a lot of time down the track
- * The coach and athlete must act on findings and advice from Physio.

HOW DO WE TRAIN THESE KIDS?

✦ **What capacities do we want to condition?**

✦ Aerobic capacity

✦ Speed

✦ General all round body strength

✦ Core strength/stability

✦ Flexibility

✦ Mental capacities



Aerobic Capacity

- ✦ **(the foundation and precursor to other capacities (AT, Anaerobic training))**
- conditioning heart to pump more efficiently and improving general circulation
- developing more blood vessels to deliver more oxygen to muscles



Aerobic Capacity

- developing more mitochondria 'energy power house' in muscles
- ✖ The biggest danger in this area is the coach interpreting aerobic conditioning = lots of running

Volume can be accumulated in other ways:

- ✦ **Swimming** is one of the best foundations for conditioning young distance athletes.
- ✦ Benefits include:
 - ✦ - develops the cardiovascular system without the wear and tear on growing bodies
 - ✦ Competitive swimming teaches potential athletes about competition at an early age enabling them to learn about pre-comp/comp routines, mental skills etc



SWIMMING

- ✦ develops a great work ethic and prepares the distance athlete for the twice a day training habit they will need to adopt later in career
- * teaches them an excellent training skill they can go back to when/if injured
- ✦ good swimmers also get a lot more out of water based training sessions

Walking – what a novel idea

- Lack of walking and too much sitting leads to loss of strength in glutes – our prime mover.
- ✚ Incorporate some long bush walks up hill with packs on into training
- ✚ Encourage kids to walk to and from school/training etc wherever possible. Even better get parents to support you in this. Also encourage fast walking and focus on feeling their glute muscles working!



Cycling

- 🌟 - if walking is out of the question try the bike
- 🌟 - organize group rides
- 🌟 - hill reps up grass hills is a great challenge –
make a competition out of it



AND NOW AT LAST RUNNING!

- ☀ - increase volume slowly and steadily
 - ☀ - have a long term plan and stick to it
 - ☀ - have a set volume for each year and systematically increase it over the weeks and months
- * keep on soft surfaces



AND NOW AT LAST RUNNING!

- ✦ have good shoes – may need new shoes every three months
- ✦ be proactive with little niggles – don't ignore them



WHAT SORT OF RUNNING?

- ✦ teach the young athlete how to jog and ingrain the 'talk test'
- * pacing is essential – too fast too early =blowing up=pain= I hate running
- * instill in athletes a love of running for running's 'sake'
- * take them on 'scenic' runs and experience a 'runners high'



ONCE THE YOUNG ATHLETE LOVES TO RUN THEN THEY ARE HOOKED

- ✦ Aerobic conditioning is now developed enough to begin some of the other components eg threshold runs, lactic tolerance work



Conditioning athletes in these areas

Anaerobic Threshold – introduce slowly

- use CC races once athletes have learnt to race the full distance

- * fartlek with longer efforts and short recoveries (prevents them running too fast in reps)

- * practice 10-12 min sustained efforts during long runs



Lactate Tolerance

- * beware and introduce carefully
- * these are potentially damaging physically and mentally if introduced too soon eg LA 400/800
- * not necessary in the younger athlete
- * introduce slowly with older athletes
- * avoid this work 10-14 days before cmp



MENTAL CONDITIONING

- ✦ This is probably a grossly overlooked aspect of the conditioning of young athletes and if introduced gradually with other more recognized aspects drop out rates may decrease.
- ✦ Teach the basics early and condition the mind concurrently – we know young athletes learn physical skills better than older athletes, so why not mental skills



MENTAL CONDITIONING

- ☀ **Precomp/comp routines**



- ☀ Goal setting



- ☀ Relaxation



- ☀ Visualizing



- ☀ Focusing



SPEED/STRENGTH/ FLEXIBILITY

- ✦ These areas are of equal importance and must be run concurrently with the aerobic conditioning program
- ✦ My session on core strength/stability later in the weekend will focus on this area in more detail.