


The First IAAF World Junior Coaches Conference

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Introduction

Following successful international coaches conferences held immediately after the IAAF World Championships in Athletics in both 2009 and 2013, the IAAF extended the franchise by staging its first World Junior Coaches Conference in conjunction with this year's IAAF World Junior Championships in Eugene, Oregon, USA.

More than 200 participants from 60 countries gathered at the University of Oregon's Erb Memorial Ballroom on 28 July 2014 to listen to and exchange views with six highly respected speakers on topics of particular interest to those coaching young athletes. Most of the participants were coaches who were with the teams participating in the championships, which concluded the day before the conference.

IAAF President Lamine Diack officially opened the conference. Also on hand were Sergey Bubka, IAAF Vice President and chairman of the Development Commission, and Victor Lopez, IAAF Council Member and chairman of the Coaches' Commission. Before giving the floor to the expert speakers, all three spoke broadly about the importance of coaching and the knowledge required for athletics to best serve young people.

This report provides an overview of the key points discussed and short summaries of the main presentations.

Overview

Certainly the main theme emerging from the presentations was the need to respect the junior athlete, both mentally and physically, and to be aware that the physical demands on their bodies are different from those on senior athletes. From the ages of 11-13 years for girls and 12-14 years for boys until young adulthood (19-25 years), young people undergo tremendous natural changes: physiologically, metabolically, hormonally, neurologically and mentally. Demands placed by these changes have to be carefully coordinated with appropriate training programmes (i.e., loads, duration frequency, intensity etc). Without this coordination, unnecessary injuries, burnout, and athlete drop-outs will happen with negative implications for the individuals and the sport.

Coaches often make the mistake of adapting programmes from successful senior athletes without considering the different impact they might have on the junior athlete going through the changes mentioned. A strong message from several of the speakers is that coaches of young athletes need to be less fixated on performance and more concerned with the specific needs and the long-term development of their athletes. Moreover, they need to be tolerant and patient with all athletes and not discriminate between the 'early talented' and the 'late learners'.

Another issue raised in the discussions was that of early specialisation. It is well known that coaches tend to focus talented young athletes on a particular event early in their ca-



reers with the aim of immediate or short-term success, which has been shown to be counterproductive for long-term success. For example, USA swimming has observed that top swimmers who specialised early (<12 years) spent less time in the sport and retired earlier than swimmers who specialised later (>16 years). It was also pointed out that the average age for the athletics champions at the London 2012 Games, was 27 years for the males and 26 years for the females, indicating that there is no need to rush the development process.

The general consensus amongst all the speakers was “diversification before specialisation” and that diversification should be the norm with junior athletes. During the formative years, emphasis should be placed on basic movement. Athletes should be exposed to as many physical activities and sports as possible with the aim of developing all-around capabilities (i.e., strength, power, endurance, general movement technique, and mental strengths) as a foundation upon which to build. With this, the coach will be in a better position to begin specialising as the athlete approaches his/her late teens.

Presentation Summaries

Process of Long Term Athletes Development From Event Group to Senior Performance/Junior

Malek El Hebil (IAAF)

El Hebil, who is the Director of the IAAF Development and Member Relations Department and has been largely responsible for the implementation of the IAAF Kids’ Athletics programme, said that movement is very important to the young child and in athletics motor skills need to be developed early through FUN activities. With use of adapted events and implements (i.e. shorter distances, lighter implements, lower hurdles, etc.) the development of coordinative-technical and physical conditioning of the young athlete occurs. The development of the all-around athlete is the prerequisite for success in athletics. Coaches should not specialise their athletes early, but rather focus on gradually increasing the loads and tolerance of training in accordance with the physiological development of the individual athlete. By helping the body adapt gradu-

ally we are building the foundation for work to master the event-specific techniques required by the future competitive athlete.

Junior Elite Level Athletes: Physiological Characteristics and Training Considerations

Randall L. Wilber, PhD (USA)

A senior sport physiologist at the US Olympic Training Center and Chair of the American College of Sports Medicine's Olympic and Paralympic Sports Medicine Committee, Dr Wilbur explained that as the young athlete matures a huge emphasis is placed on the changes of the endocrine-hormonal system. Early specialisation and training young athletes like adults places high loads and demands on the maturing body. Diversification, not specialisation, should be the goal in the formative years, with conservative training loads (volume, intensity, etc). Along with proper age adjusted training, consideration should be given to quality of sleep, recovery and refuelling. If neglected, these may affect the maturation of the young athlete. In short, the coach needs to adjust the training to parallel the physiological changes of the athlete.

Training of Elite Athletes: Build-up Phase I (15-16yrs) and II (17-19yrs)

Helmar Hommel (GER)

Hommel, who is a former national coach for the German athletics federation (DLV) responsible for coach education and a former Executive Editor of *New Studies in Athletics*, said that systematic, long-term planning is important for maximising performance in the adolescent athlete. The inclusion of well-planned and delivered build-up phases (I and II) ensures the development of general athletic fitness, ability to handle increases in load, coordination, speed, and technique. These are the prerequisites for specialisation. Early specialisation without a proper build-up can lead to pathological loads and damage to various systems in the young athlete, negatively impacting performance development. Targets should be based on systematic increases of previous motor, physical and psychological developments. With the build-up phases, age appropriate special event requirements (i.e., hurdles, throws, sprints etc.) are gradually and systematically introduced. The end of the build-up phases is determined by fully developed physical parameters.



Strength Training with Youth and Junior Athletes

Keith Baar PhD. MA, BSc (USA)

Dr Baar, who is an Associate Professor at the University of California, Davis, started by reminding the participant coaches that nutrition and resistance training are important for increasing the size and strength of muscles, as well as achieving optimal function of the connective tissues. Athletes need to build functional muscle, based on the demands of their event (i.e. sprinters and endurance runners do not need a large upper body). The best way to increase muscle size is to increase protein synthesis, by training to failure for one set, regardless of the load (light or heavy) and proper protein intake. The progression of resistance exercises for youth athletes should be: body, then light, and then heavy weights. If the connective tissue is stiff it increases the chance of injury (i.e., muscle tear), if lax, it affects the transfer of energy from muscle to bone, affecting speed. Plyometric exercise increases stiffness, slow contractions increase tendon health.

Physiological and Metabolic Background of Endurance Training with Talented Youth and Junior Athletes

Ulrich Hartmann (GER)

A member of the lecturing staff at the German Coaches Academy in Cologne and a Board member of the German Rowing Federation responsible for coaches education and scientific projects, Prof. Dr. Hartmann said that the long-term development of the young endurance athlete should focus primarily on the development of the aerobic system (AS). This process takes years and is based on increasing the volume of the mitochondria, which supply a greater amount of energy to the muscle

than the glycolytic pathway, which only needs 14–28 days to develop. The trick to training is to develop the appropriate percentages of the aerobic and anaerobic systems dependent upon the event. For instance 100-400m sprinting is primarily glycolytic with some aerobic capacity. However, as the distance increases from 400m up to the marathon, the bulk of energy is from the AS, with a small glycolytic component for the beginning and finish of the race. In other words, the percentage of intense training decreases as the distance increases, since high intensity training is for training the glycolytic pathway.

Psychological aspects of age/development related training

Craig Poole, PhD (USA)

Dr Poole is the former Head Coach/Director of USA Track and Field Residency Program Olympic Training Centre in Chula Vista, California. He identified five factors that are deemed important for athletes to possess in order for the coach to guide them: great attitude, effort level, concentration, hate to lose and killer instinct. With these traits and the coach's ability to listen, adapt, interact and take an interest in the athlete, trust can be developed. In addition, coaches deliver their experience, whether positive or negative, by the messages they send. Being proactive with proper non-verbal language fosters an attitude of compliance. The athlete is more willing to train harder in order to excel and be better than before.

Reported by Nikos Apostolopoulos

Nikos Apostolopoulos is a Consultant Editor of NSA.

**He can be contacted at
microstretching@gmail.com**