In November 2016, youth development expert **Wolfgan Killer** facilitated a seminar on the best practices for the development of under 16 athletes as part of the IAAF Conference in Daegu, South Korea. This report summarises his main discussion points from the seminar.
The objectives of a successful training program for young athletes should be to achieve a broad physical development focusing on agility, balance, co-ordination, endurance and flexibility, according to development expert Wolfgan Killer. The priority of a training program for athletes under 16 years of age should be general conditioning, not tailoring a program for a specific event group. “Doing the combined events and all the general training produces the stable basis for a long career in athletics” Wolfgan says.

Wolfgan also highlights the importance of encouraging young athletes to engage in multiple sports over the year. Young athletes who participate in at least four sports are more likely to develop a broad range of fundamental movement skills improving their chance at athletic success. It is recommended that at least one of these sports is athletics, gymnastics or swimming as these are the foundation sports, which develop the fundamental skills of all sports.

**The Long Term Development Training Phases**

- **Kids’ Athletics:** Set the foundation of physical literacy and develop the fundamental movement skills of run, jump and throw.
- **Basic Training:** Introduce the basic skills and principles of the track and field events promoting training in multiple events.
- **Build-up Training:** Begin focusing on an event group of interest to the athlete with more a focus on more specialised training.
- **Connect Training:** Assist the athlete make the connection from training into competition and gradually move into High Performance training.

Transition into High Performance or senior Recreational Athletics training.
When monitoring the progression of young athletes it is important to remember that this is a period of rapid physical and mental development, particularly between the ages of 11 and 15. This period of development will naturally improve athletic performances and young athletes who develop quicker than others are often at an advantage during this age. For coaches this is important to remember as children of the same biological age can often be several years apart when considering their developmental age. Understanding the developmental age of your athletes and creating an appropriate training and competition schedule is essential for their long term involvement and success in the sport.
MANAGING RECOVERY

Special attention needs to be taken when managing the recovery period of young athletes as it can vary significantly between individuals. The athlete response to training sessions may also fluctuate dramatically as they mature and coaches should pay special attention to their training regime during periods of rapid physical growth.

As a general rule a young athlete should recover from a normal training session within 2 days. For a high intensity training session or after a competition (especially a combined event competition) recovery can take up to 7 days. Coaches should take this into account when designing an athlete’s program and only schedule light training during the recovery period.

ADAPTATION TIME FOR YOUNG ATHLETES

Muscles - Recover after 2 to 4 days. Muscle growth response within a 4-6 time period.

Tendons - Naturally strong but slow to increase in strength and take young athletes years to develop.

Nervous System - Intensive training requires a 2 to 4 days of recovery.

Endurance System - Energy stores recover and adapt 48 hours after training. The blood-heart-cardio-vascular-breathing systems take 4-6 weeks for adaptation.
Things to Do for U16 Athletes

- Train coordination skills
- Train balance and stability skills
- Teach basic technique for all events
- Develop a good endurance base
- Train general speed and agility
- Train flexibility using dynamic and static stretching
- Develop a solid strength and conditioning base
- Encourage a social group environment

Things to Avoid for U16 Athletes

- No maximum power exercises
- No specific power training
- No plyometric jumps
- No high intensity training
- No periodization training
- No high volume training

There is evidence from replicated peer reviewed studies that these types of training are more likely to result in stress fractures, growth plate injuries, and are correlated with higher rates of general injury.

COMPETITIONS

Participation in appropriate competitions can play an important role in the development of young athletes. Competition provides an opportunity for athletes to test their ability and against others, perform in public and can serve as a goal for athletes to aim towards, motivating their participation. However, when the competition is inappropriate it can cause psychological stress that demotivates athletes and deters them from future participation. It is the role of the coach to select appropriate competitions that drives the athlete’s long-term success.

WOLFGAN’S RECOMMENDATIONS

12-13 years old: 8-10 competitions per year.
14-15 years old: 10-12 competitions per year (including at least 2 relay and 2 combined event competitions).
16-17 years old: 12-14 competitions per year (including at least 3 relay and 2 combined event competitions).
**SUMMARY OF BEST PRACTICES**

The key message from the seminar was the importance of developing a multi-event approach to training under 16 athletes that develops their agility, balance and coordination. A successful training program should include the following components:

- Fun, variety and a social component to motivate athletes for training.
- A wide range of activities that develop coordination skills.
- No early specialisation - a combined event and multi-sport approach to develop a range of motor skills.
- A focus on quickness and velocity in sprints, jumps and throws.