

# Training Principles

By Leo Isaac

Training programs need to be flexible rather than rigid, owing to the unpredictability of athletes and how they recover from training loads. In dealing with unpredictability, athletes and coaches should develop a deep knowledge of training principles rather than pay blind obedience to formulaised training programs. Here are some principles that will help accomplish the needed flexibility.

## 1. Listening to your body

In attempting to train on a highly frequent basis, and maintain high levels of effort, the athlete must take account of soreness, pain and feelings that something is not quite right. This means that the exercise schedule needs to be frequently altered to rest individual body parts or to reduce intensity to accommodate the need for extra recovery of individual body parts. For example if a wrist appears to have an issue, the wrist is rested that day, and some other exercise replaces the exercises that would have further stressed the wrist. Injury is the greatest cause of athletes failing to progress and injury is most likely to appear just after athletes have performed in training and competition at their very best. Buoyed by success, athletes and coaches very often make the mistake of trying to repeat high levels of performance rather than immediately adopt recovery measures. Athletes should expect that wonderful sessions are followed by recovery sessions to restore the body. Training is only as good as recovery.

## 2. Working on strength

In periods of training where the number one goal is increasing strength, maximal muscle contraction is more important than muscle endurance. It is commonplace in Weightlifting for athletes to engage in sets of 5's due to the belief that such training promotes hypertrophy but this practise has questionable benefit for the Weightlifter. Although higher reps per set may induce strength-endurance, Weightlifting requires one-off maximal muscle contraction. It is arguable that the goal of hypertrophy can be achieved by low repetition sets (1's, 2's and 3's) and that the emphasis should be on achieving a lower number of repetitions at a higher intensity rather than a higher number of repetitions at a lower intensity.

## 3. Rate of strength improvement

A common tendency among athletes in strength training is to plan 5-10Kg increases in strength over relatively short periods of time, for example 6 weeks. This rate of progress is unreasonable for intermediate and advanced athletes. Intermediate athletes (2-3 years experience) should be looking for 2kg increase every month on strength exercises such as squats, and for advanced athletes (training longer than 3 years) perhaps about 1kg per month. Furthermore, planned increases should be proportional not only to level of experience but also to body weight. If these levels of improvement after 4 years experience can be sustained, the athlete will have a formula for success. Athletes must plan targets for strength improvement and accept that the use of fractional discs to gain improvement is entirely necessary.

#### 4. Volume of Work

High frequency training per week e.g 7-10 sessions per week, is the mechanism by which high performance athletes achieve the necessary high training volume required to achieve further adaptation. Frequent shorter high quality sessions are preferred than less frequent but longer sessions which result in greater fatigue. After about 2 hours, it is generally thought that further training has insufficient or no benefit (as quality drops). Weightlifting is not a marathon sport. By increasing the frequency therefore, the athlete can increase the volume of work with less resultant loss of quality. Volume can of course be increased by higher reps per set, but this is not the required character of Weightlifting but is more a case of bodybuilding. The character of weightlifting training is high intensity not endurance.

#### 5. Intensity

Good decision making is required on a day to day basis by the athlete and coach in regard to intensity. Mistakes are often made in this the regard. If intensity is too high on a frequent basis, there is a risk of injury and detriment to skill, confidence and motivation. Too low an intensity on a frequent basis, and the athlete will improve very slowly or not at all. The critical factor is that judgment about the appropriate level of intensity is best made DURING the session rather than according to a prior planned schedule of percentages. It is difficult for athletes to make such decisions due to lack of objectivity. If athletes are forced to make the intensity decision on their own, as is the case when the coach is not present, prior guidance should be given on how to do this. Coaches also have difficulty determining appropriate intensity as well. The key to success is that the coach must have a good understanding of the athlete and be well informed about how athletes adapt to training.

#### 6. Selection of exercises

Training should be focussed on the achievement of planned objectives. Working on weaknesses is a basic objective that should always be present. For high performance athletes, it can be very hard to determine their own weaknesses. Their performance can be so outstanding that even coaches may find it difficult to pinpoint weaknesses. Nonetheless, the principle must be understood that every athlete is limited by their weaknesses. However, this issue can be complicated by over-dwelling on weaknesses. This may cause a confirmation in the athlete's mind that the problem is fixed or immutable. Thus if an athlete works on a perceived weakness at high intensity on a frequent basis, they may experience failure and this confirms and entrenches the weakness. Working on weaknesses is not just a matter of training to get stronger at a particular exercise but instead a change in the manner in which an exercise is performed and this requires subtle understandings of the coach as to what contributes to quality training.