



HOW TO IMPROVE YOUR FITNESS



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When it comes to designing training programmes there is no blueprint for success. The human body is a complex biological system which responds and adapts to the stimulus of exercise in different ways. It is therefore important to take into account individual needs, personal circumstances and training goals. Whether you are a serious athlete or somebody trying to improve your general health and fitness, when it comes to designing and implementing a training programme there are some fundamental training principles you should adhere to. These principles provide a framework on which to systematically develop training programmes and apply to all levels of the sporting spectrum. These principles of training neatly spell the word 'SPORT'.

PRINCIPLES OF TRAINING

SPECIFICITY

The effect of training is specific to the type of activity undertaken. Adaptations reflect the demands placed on the body. For example, endurance training will predominately affect endurance capabilities such as cardiovascular (heart and lung) fitness whereas resistance training will mainly improve muscular strength. More specifically performing arm curls with heavy weights (90% 1RM) will increase the strength of the biceps but will have little if any effect on other muscles, cardiovascular fitness or even muscle endurance. The implication of this principle is that those involved in training programme design such as a coach, trainer or the athlete themselves should therefore have a good understanding of critical factors such as the physical demands of the sport, and the specific needs of each individual. Such needs analysis serves as a starting point for designing effective fitness and exercise training programmes.

PROGRESSION

As a result of regular training (overload), physiological changes (adaptations) take place. Once this adaptive phase has occurred, if the training load is not progressively increased, no further improvement in fitness will result. In order to optimise the training stimulus to further enhance the fitness gains, the 'FITT'

principle can be manipulated and varied as appropriate to the needs of the individual and phase of training.

These are:

F – Frequency – How often?

I – Intensity – How hard?

T – Time – How long?

T – Type – The type of training (e.g. endurance, strength, etc)

OVERLOAD

Physiological adaptations resulting from training are dependent on the appropriate training stress or load. In order to bring about physiological changes which result in improved physical fitness, training must push the body beyond the level it is used to. This training 'overload' provides the stimulus for the body to adapt and become fitter, stronger and more resistant to fatigue.

REVERSIBILITY

The adaptations to training are reversible. If training ceases, is infrequent, or not sufficiently intensive the effects will diminish and over time training benefits will be reversed leading to de-training. It's very much a case of 'use it or lose it! For well-trained athletes however, any competitive edge lost by a week's injury or bed-rest illness will usually be recovered in 2 or 3 weeks.

TEDIUM

Insanity is 'doing the same thing over and over again and expecting a different outcome!' Therefore in order to elicit a continuous improvement in the responses and adaptations to training, the exercise stimulus in terms of training type needs to be constantly varied. This also minimises the risk of boredom and staleness.

BALANCING TRAINING AND RECOVERY

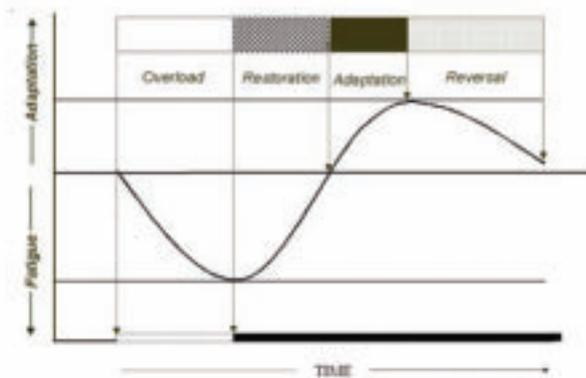
Training can produce microscopic muscle damage, fatigue and imbalance in the body. It is during the recovery period, between sessions that the training adaptations occur, leading to improved fitness levels. Many athletes incorrectly assume that since training improves fitness, more training will make you even better. Often 'more is less and less is more!' Recovery is

an often overlooked part of the training programme. Failure to allow adequate recovery is one of the factors that can lead to injury, overtraining and burnout. Careful planning, for example doing muscle fitness sessions on alternate days with cardiovascular fitness on the other days or by alternating heavy and light sessions, as well as incorporating recovery and rest days, will allow the athlete to optimise the benefits of their training whilst ensuring sufficient recovery.

CONCLUSION

Effective fitness training programmes require careful planning and attention to the components of fitness and principles of training, taking into account the specific demands of the sport and the needs of the individual. No matter what your motivation for engaging in sport, by incorporating these fundamental principles into the design of any training programme will ensure a balanced approach which seeks to enhance the overall training benefits.

Selye's General Adaptation Syndrome (GAS)



The physiological adaptations that result from training usually occur in a predictable and uniform manner when conditioning programs adhere to these 5 principles. This concept is related to Selye's (1956) General Adaptation Syndrome (GAS) model which refers to the manner in which humans react to stress. An adaptation of the GAS model specific to physical training is outlined above. Following a single bout of training there is a phase of acute fatigue and reduced performance. With an appropriate period of recovery this acute fatigue is followed by a phase of restoration and adaptation. Once this period of super compensation occurs, unless further training stress (overload) is imposed a reversal (de-training) in training adaptation will occur.