
The 24 Consensus Principles Of Athletic Training And Conditioning

Some of this you already know and apply in your own coaching. But Kernan sneaks in a few things here like “modeling.” He’s not talking about walking down the fashion runway. If you made a chart, how much of this do you do now? Should you want to investigate further, there is a list of sources at the end. For those who may want to master Tudor Bompa’s principles, you may want to hunt down the workbook that accompanied Theory and Methodology of Training. Coaching Education, Level II, digs into this Bompa material quite well.

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INTRODUCTION

The theory and methodology of training, as a distinct unit of physical education and sports, has its own specific principles based on the biological, psychological, and pedagogical sciences. These guidelines and regulations which systematically direct the whole process of training are known as the “principles of training.” (Tudor Bompa, 1994)

The coach of any sport needs to consider all aspects of the training process before he or she designs a training program. All athletic events have specific components that make up the true nature and scope of that sport, whether it is cyclic or acyclic. The following are 24 consensus principles from various sport training and science

experts, such as Bompa, Harre, Costill, Epley, et al. These principles should be considered by coaches when establishing any exercise or training regimen for their athletes.

Principle #1: Physical Examination

- 1.) Everyone gets one; youth, masters, elite, junior elite, professionals—everyone!
- 2.) A thorough examination should be undertaken: EKG, blood analysis, body composition, and cardiorespiratory assessment!
- 3.) The assessment should be completed by competent medical professionals and from the coaching and sport medicine staffs.
- 4.) DO NOT COACH, TEACH, nor INSTRUCT anyone who has not taken a physical exam unless he/

she possesses a current physical examination waiver.

Principle #2: Active Participation in Training

- 1.) The coach should communicate training information with his/her athletes.
- 2.) The athlete should actively participate in planning and analyzing long- and short-term training programs.
- 3.) The athlete must periodically take and pass prescribed standard tests.
- 4.) The athlete must undertake individual assignments and/or individual training sessions without supervision of the coach or manager.

Principle #3: Multi-Lateral Development

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“The necessity of a multilateral development appears to be an accepted requirement or value in most fields of education and human endeavor. Parents should check that their children are properly conditioned in all areas of fitness before a program begins. All biomotor areas of an athlete should be developed before embarking on a specific sports training program.” (Bompa, 1994)

Principle #4: Individualization

- 1.) Each athlete will react differently to any training stimulus.
- 2.) There are differences by age, gender, and training age.
- 3.) No effective training program can be simply a copy of another athlete’s program, no matter how elite or successful that athlete may be, or was!

Principle #5: Feasibility

“This principle simply states that the planned training load must be realistic for the athlete’s age, sex, training age, level of ability, and mental capacity.” (Freeman, 1996)

Principle #6: Specificity/ Specialization

- 1.) Specialization/Specificity represents the main element required to obtain success in a sport.
- 2.) All athletes will be what you physiologically train them to be.
- 3.) Exercises specific to a sport or event lead to anatomical and physiological changes related to the demands of that sport or event.

Principle #7: Ground-Based Activities

- 1.) Most sport skills are initiated by applying force against the ground. The more force your athletes can apply against the ground, the faster they will run, and the more effective they will be in sport skills.
- 2.) You need to select exercises and

conditioning drills that apply force with the feet against the ground. (Epley, 1998)

Principle #8: Multiple Joint Actions

- 1.) Your strength and conditioning program should be based on exercises and drills involving multiple joint actions to improve athletic performance. Sport skills, such as running, jumping, or tackling in football, require multiple joint actions timed in the proper neuromuscular recruitment patterns.
- 2.) Isolating single joint actions might work for body builders to improve their appearance, but athletes need to concentrate on activities involving sequential multiple joint actions to improve performance. (Epley, 1998)

Principle #9: Three-Dimensional Movements

- 1.) Sport skills involve movements in the three planes of space simultaneously: forward-backward, up-down, and from side to side. Your strength and conditioning program should improve functional strength with exercises and drills approximating these skills.
- 2.) In strength training, only free weights allow movement in three dimensions simultaneously. This makes the transfer of strength and power easier to merge with the development of sport skills. Machines limit the development of sport skills. (Epley, 1998)

Principle #10: Progressive Overload

- 1.) Specific exercise overload must be applied to bring about physiologic improvement.
- 2.) Overload can be achieved by manipulating volume and intensity.
- 3.) The training program must place a demand on the body’s biomotor systems for improvement to occur.

- 4.) Training loads must be gradually increased and manipulated.

Principle #11: Train the Correct Energy System

“The primary objective of conditioning is to improve the energy capacity of an athlete to improve performance. Many coaches and athletes are confused or misinformed on how to implement the correct conditioning methods for a particular sport. For effective conditioning, training must occur at the same intensity and duration as you will face in competition in order to develop the proper energy system predominately used.” (Epley, 1998)

Principle #12: Interval Training

- 1.) Your conditioning program should be based on interval training principles.
- 2.) Interval training is work or exercise followed by a prescribed rest interval.
- 3.) The program must meet the specific metabolic conditions of each sport or event.
- 4.) A common training error that coaches make in their conditioning programs is making their rest intervals too short. If the rest period is too short, the amount of energy is not sufficient to meet the demands of the next effort. (Epley, 1998)

Principle #13: Train Explosively

- 1.) Strength gains may be determined by the size of the muscles, but many times an athlete will get stronger because of an improved ability of the nervous system to recruit motor units.
- 2.) Through proper training, the body learns to recruit more motor units so that more force can be generated.
- 3.) Training explosively with free weights allows more fast-twitch muscle fibers to be recruited and in return improves an athlete’s performance potential. (Epley, 1998)

Principle #14: Adaptation

- 1.) This is the process of the body responding to a training load.
- 2.) Adaptation to training is the sum of transformations brought about by the systematic repetition of specific exercise. SAID=Specific Adaptation to Increased Demand!
- 3.) Proper levels of load must be prescribed; if not, undertraining or overtraining could occur.

Principle #15: Consistency

“Sometimes positive adaptations only occur after months and years of consistent hard work.” (USOC, 1997)

Principle #16: Variety/Variation

The training needs to be varied to prevent staleness. Varying the load causes the body to adapt. This may mean varying the durations and intensities of different workouts or performing a myriad of drills.

Principle #17: Split Routine

Most strength and conditioning programs use three workouts per week. However, this training can be done daily if a “split routine” is used. This means alternating the types of exercises performed and executing them on consecutive days. With the split routine, you get at least two full days of recovery from each exercise.

Principle #18: Hard-Easy System

- 1.) You can make more progress over longer periods of time if you do not work at maximum loads during each workout.
- 2.) A “Hard-Easy” system eliminates overtraining and mental burnout.
- 3.) Design one or two hard workouts per week, and have the other days involve light to moderate training.

Principle #19: Modeling

“Through model training the coach attempts to direct and organize his/her training lessons in such a way that the objectives, methods, and content are similar to those of a competition. The coach or athlete needs to know his or her sports ergogenesis [work production].” (Bompa, 1994).

Principle #20: Warmup

- 1.) Warmup prepares the body for action.
- 2.) Warmup involves doing low-intensity type activity, helping to get blood flow to the working muscles, and preparing them to perform high-intensity tasks.
- 3.) Physiologically, the body temperature needs to increase 1-2 degrees.

Principle #21: Cooldown

- 1.) The cooldown helps to get the blood away from working muscles back to vital organs.
- 2.) It is essential to remove metabolic wastes from the body and muscles.
- 3.) Cooldown is commonly neglected.
- 4.) Latest studies show that an extended cooldown session may slow illness and injury.

Principle #22: Rest and Recovery

- 1.) Rest allows the biomotor systems to regenerate and become better and stronger than before.
- 2.) Recovery techniques include sleep, active rest activities, massage, ultrasound/electrostimulation, sauna/steam baths, and hot/cold immersion baths.
- 3.) Every athlete should strive for a bedtime of 10:30 pm or earlier, every day during training.
- 4.) “An athlete needs to establish a pattern or a regimen for his sleep as well as his training.” (Pat Porter, US Olympian)

Principle #23: Reversibility

- 1.) Detraining occurs rapidly when a person stops exercising or training.
- 2.) Fitness can decline rather rapidly, at about a 1/2 ratio.
- 3.) Because of the reversibility principle, it's important to maintain some sort of fitness through cross training or active rest activities.

Principle #24: Long-Term Periodization and Planning

- 1.) The process of training is a long term phenomenon.
- 2.) It involves planning for the entire year, from the off-season to a competitive peak.
- 3.) It is also important to keep track of your workouts from day to day, month to month, and from year to year in some kind of file and retrieval system.

SUMMARY

A coach or trainer of any sport or fitness activity will enhance his/her success by following these principles of training when designing and planning training or lesson plans for athletes and teams.

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