

IQ

INTELLIGENT TRAINING
/ TOTAL TRAINING

ONE DOES NOT OBTAIN A TEN DUE TO A PARTICULAR OUTSTANDING QUALITY, BUT THROUGH A COMBINATION OF PRECISE TECHNICAL, TACTICAL, STRATEGIC AND PSYCHOLOGICAL ACTIONS THAT ARE CARRIED OUT VOLUNTARILY, REPEATEDLY, ON A TARGET, WITHIN THE OPTIMAL PERFORMANCE TIME.

As shooters in performance disciplines, we know very well the difficulties we have to face. Each shot, from first to last, will be crucial in reaching the performance we have mapped out. There are so many variables that we are exposed to that we must define the problems inherent in each of them, at the same time looking for strategies that will offer the best focus and ultimate solution.

Shooting is such a complex sport that studying and training in it from a single viewpoint would entail failure from the start. We all understand the need to solve specific problems, but how can we move in the right direction without first clearly determining the type of solution we seek? In the initial stages of the practice of a sport as well as in the high performance phase, the integral preparation of the athlete is the basic foundation of any work that is to be done. As the shooter gains experience, the training variables become more complex and their practical application more complicated. In this sense, we can say that all motor reactions respond to organic needs of an adaptive nature, (Rigal, Robert 1993) so that the shooter must train in order to be able to adapt to the high demands of competitive shooting.

We often seek a strategic plan in order to elevate our level and we are not entirely sure where to begin. There are so many variables in a total training scheme that one must make use of the training sciences in order to find a quick and concrete solution. We can mention a few factors that point to the difficulty of total training, especially considering that these must be combined into a single unit to enhance athletic performance during competition. The following are the factors I consider most relevant when preparing a long-term plan.

- Conditional factors (strength, resistance, speed, flexibility)
- Technical factors (pure technique)
- Tactical factors (competitive strategic intelligence)
- Physiological factors (internal processes)
- Coordination factors (neuro-motor intelligence)
- Psychological factors (mental strength)
- Social factors (interpersonal intelligence)
- Strategic conduction factors (coach)

CONDITIONAL FACTORS These are well known by everyone – strength, resistance, flexibility and speed, which make up general physical condition and that which is specific to each sport. Maximum strength, strength resistance and aerobic resistance are most important in shooting. Physical training is important for both the basic athletic stages as well as high performance levels.

TECHNICAL FACTORS pure technique is studied with the support of applied biomechanical sciences in keeping the weapon in a state of optimal balance. This is where there is a fusion of weapon-shooter into a single unit.

TACTICAL FACTORS The shooter must learn to read stimuli and internal bodily sensations that can signal a decrease in performance. The shooter must respond to external problems such as climate, acoustics, visual factors, etc. that he/she will encounter in a competition. This is what I call strategic competitive intelligence.

PHYSIOLOGICAL FACTORS all body parameters that must be analyzed by sports medicine professionals in order to improve performance and avoid lesions. We must make use of their expertise in order to improve parameters such as height-weight-weapon ratio, status of the articulations, visual acuity, muscular mass-body fat ratio, hydration, nutrition, preventive health measures, etc.

COORDINATION FACTORS We must work on all those skills that together constitute an athletic technique. In shooting, as in any other sports, it is necessary to work on skills such as balance, reaction and precision, spatial discrimination, correct reading of space-time-object relationship, to name a few. Even though they may not seem to be very relevant to our sport, these skills are vital in terms of determining the ideal moment for releasing a shot - a complex neuro-physiological act. One must work on stimulation, reception, analysis, appropriate response and technical execution as nervous impulses of the highest precision. The sum total of these factors, in a fraction of a second, makes the difference between a 10 and a missed shot.

PSYCHOLOGICAL FACTORS Psychologists have discussed this matter at great length. Mental strength and self-determination are necessary but not the only conditions required in order to face years of training and competitions. In my opinion, one needs the advice of a psychologist who can help the athlete clearly understand his/her final objective, considering the results he/she is obtaining. A key factor for success will be that the psychologist understand that he/she is not dealing with a person who is ill, but with an athlete.

SOCIAL FACTORS The manner in which an athlete relates to his environment, his teammates, the technical body, the media, etc, will determine a great deal of his performance. It should also be mentioned that a vital factor will be his avoidance of a relationship with certain groups.

STRATEGIC CONDUCTION The coach must coordinate each of these areas, strategically establishing each parameter. The athlete is the KING, our work team is made up of game pieces and the coach observes the game board from a distance. Of course, the KING has a certain degree of autonomy, but the coach will see things the athlete does not see and, at times, should not see. High performance athletes demand that coaches be college graduates and professionals who have studied a minimum of four years of preparation in their field, as only they will be able to understand the complexities of physiological, neuro-motor and psychological factors that must be regulated according to the different theories of coaching.

As coaches, we must make a precise diagnosis of the STRONG AND WEAK POINTS of each athlete. In fact, the first step is finding out where we are headed.

Individual sports are characterized mainly by the need to develop extremely precise technical skills and autonomous problem-solving abilities during an event. Individual technical and physical preparation must develop energy-saving skills and mental strength that will allow the athlete to overcome difficulties that arise during competition. In our sport, it is very



important to develop self-knowledge rather than knowledge of one's adversaries, as the latter are not confronted directly during a competition.

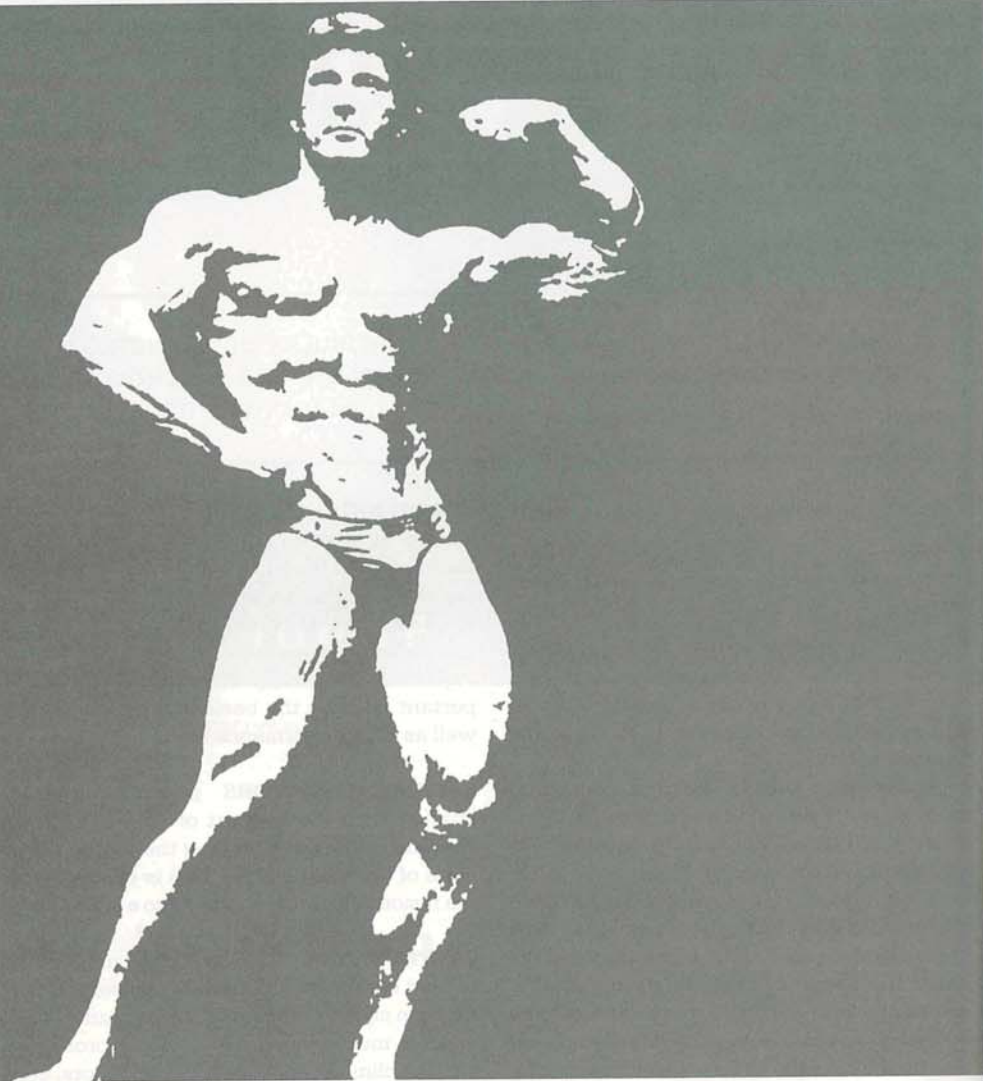
In shooting, a deep knowledge of one's self is vital, since training, technique, tactics and strategies, physical training, etc. do not aim at facing a rival but rather at defeating him/her by improving one's own performance. As a shooter, I have only participated in national championships and won a few medals in South American competitions. These were a source of great joy, as is the case of any athlete who sees his/her flag at the podium, but, in truth, I have not been a great shooter. But I love this sport and all the effort I invested in my training since I was a young man have, in time, led nowhere in many ways. I always felt the need to have a well-prepared, intelligent coach who understood the problems I had to face as an athlete and who would offer his knowledge and expertise to help me develop. I never found one and my efforts were simply a result of the passion I feel for this activity.

A world-class coach, my friend Vladislav Saňack, understood many of my doubts, but unfortunately my friend lives in the Czech Republic, but he gave me some of the best advice anyone has ever offered. At the time I was 23 years old and coaching 13 and 18-years-olds, competing in representation of my beloved club, the Tiro Federal Argentino, and in view of my endless questions, Vladislav told me, "You have a lot of questions that you will not be able to answer by yourself, you have questions that go beyond the shooting sport, you must investigate and deepen your knowledge through deep studies of the sports sciences. Is there a university in Argentina where you can obtain access to this type of knowledge?"

This advice made a great impression on me; in fact it changed my life.

Fortunately, I finished my university studies after 5 years and my scores began to improve significantly despite having less time for training. I believe this was due to the mental organization that I was taught at the university in terms of the variables that condition and empower an athlete. Currently, as long weapon coach at the most important shooting club in Argentina, and perhaps in South America, I have encountered the difficulty of the strong individuality with which shooters wish to face their training. This has led me to understand the importance of the athlete-coach relationship in the attainment of athletic successes. This series begins with a simple professional introduction and will cover different topics both from the viewpoint of the shooters as well as that of the coach, in the hope that it will provide a source of important information for all sport shooters.

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SHOOTING AND PHYSICAL CONDITIONING

SHOOTING SPORTS REQUIRES A SPECIFIC TYPE OF PHYSICAL CONDITIONING

Just like any other sport, and especially competition sports, the shooting sport requires a very specific type of physical conditioning. This preparation must meet the needs of each discipline: the physical work of an Olympic rifle shooter is not the same as that of a practical shooter. For this reason, it would seem wise to establish the training parameters for each discipline according to its specific peculiarities.

OLYMPIC DISCIPLINES WITH SHORT ARMS

Free Pistol .22 50 m and Air Pistol 10 m competitions take place for about 1 hour and 45 minutes during which the shooter must maintain a static position, with his arm holding the pistol aligned with the target, for a maximum of 30 seconds. Central fire .32 and

.38, Sport Pistol .22 and Rapid Fire Pistol competitions are shot in two sets: precision and speed, so that a competition can take all morning and part of the afternoon, including the breaks. These five disciplines require the same physical qualities: resistance and balance of the legs in a static position and strength and resistance of the muscles of the shoulder, arm and forearm holding the pistol.

OLYMPIC DISCIPLINES WITH LONG ARMS

In the three-position competition with a .22 rifle and 120 shots (40 prone, 40 standing, 40 kneeling) and in the other two rifle specialties, prone 60 shots 50 m and air rifle 10 m, a shooter requires general physical resistance in order to maintain his position and keep the rifle stable for several hours.

SHOTGUN

In this discipline the shotgun must be held firmly but freely enough so that it can seek the clay target quickly and precisely. This discipline requires general physical resistance, strength and speed of the upper limbs. We must also pay special attention to twisting movements of the torso when seeking the targets.

PRACTICAL SHOOTING

This is a physically beautiful discipline that encompasses all the physical qualities that make an athlete in a traditional sport. This is due to the fact that it is possible to recreate a vast number of shooting scenarios: brief bursts of speed, sudden halts, aiming and shooting, combining skills and abilities such as running, jumping, rolling, climbing, descending, etc. From the standpoint of physical training, this is an interesting discipline indeed, for one must develop strength, speed, flexibility and resistance.

HOW DOES ONE TRAIN?

For Olympic disciplines with short and long arms, one must concentrate on:

BASIC AEROBIC CAPACITY

This includes workouts of a very low-intensity and long-duration jogging. We can work out at a heart rate of 120/140 beats/min, starting with 15-minute jogs, and adding 5 minutes each week, three sessions per week. This work can be done at intervals, for example, by running three minutes until your heart rate is 140, then walking until your heart rate is 120, then repeating the sequence.

>> The maximum ideal workout duration for a shooter in these disciplines is 45 minutes, including intervals.

STRENGTH AND RESISTANCE

Endurance training must have the same aim: holding a weapon during a competition without being affected by fatigue. One must work on the large muscle groups of the thighs on the weight-training bench, doing an exercise series of 20 repetitions at 60-70% of your maximum strength - using enough weight to become fatigued with this number of repetitions. For example, if a maximum repetition (MR) is performed with 50 kg, 60% is equivalent to 30 kg, you must perform 20 repetitions with 30 kg.

>> Half-squats improve the general strength of the legs and buttocks which are so important for keeping one's legs static.

ABDOMINAL MUSCLES

It is important to perform a series of exercises with sub-maximal resistance, making an effort to do as many series as possible each day.

Abdominal muscles are fundamental for keeping the torso and hips static during precision shooting.

In order to strengthen the shoulders, particularly for pistol shooters, one can sit on a bench and do 12 repetitions but at a higher percentage than that of a MR, 70-85%. This produces specific adaptations that develop a firmer hold of the weapon with less effort. Shotgun shooting requires the same workout mentioned above, with the following variations:

WORKING DORSAL MUSCLES SPECIFICALLY FOR SPEED

Lying on the floor with legs open at shoulder width and toes planted firmly on the floor, raise your shoulders slightly off the floor and make wide circles with both arms stretched out fully.

>> This exercise must be performed quickly, doing several series per workout.

TRAINING THE OBLIQUE ABDOMINAL MUSCLES

This work is very important given that these shooters need to twist the torso quickly and with great precision.

>> Lie on your side and raise your torso from the floor, performing a series of exercises with sub-maximal resistance, for example, 4 series of 25 fast repetitions. The speed of the execution is fundamental, as we are training for this quality precisely.

HIGH-SPEED TORSO ROTATIONS

This exercise is performed by two shooters, standing back to back at a distance of 1 meter, using a basketball or a medicine ball. They must pass the ball quickly in a circular sense, twisting their torso while trying to face each other as squarely as possible.

>> This exercise can be varied by having the shooters stand further apart and instead of passing the ball, tossing it.

Another interesting variation is having the shooter stand facing away from his coach. The coach gives a verbal signal and tosses the ball, so the shooter must twist his torso quickly and catch the ball. The faster the twist, the faster the toss or the smaller the distance between the coach and the shooter must be.

PRACTICAL SHOOTING

Practical shooting requires a higher level of training, so that to the workouts mentioned above we must add the following considerations. Aerobic resistance is limiting for a shooter in these disciplines and is thus not recommended.

I have observed that shooters make the fatal mistake of training aerobically, when this is not a fundamental requirement. Training this way only makes you slower. Working out for longer periods of time, at a lower in-



tensity, you stimulate the slow contraction fibers of the muscles, losing speed and capacity for fast reaction.

A practical shooter should work on his reaction capacity and pure speed. He/she must train his fast-twitch, rapid contraction fibers. Specific resistance will result from recovery processes after these workouts.

If at a given stage, the maximum distance to be covered is 20 m, the shooter must train specifically for that distance. Starting from a position similar to that of Shooter Ready, at a signal from the coach, then he/she runs at maximum controlled speed, then lowers his/her center of gravity and stops exactly at the shooting point.

It is easy to train in the forests of Palermo, where one can measure the distance between trees and simulate a shooting stage in order to work on speed and reaction. One can stop at different positions: standing, kneeling, prone, etc. Repeated speed sessions substantially improve a shooter's results.

The practical shooter must perform workouts that start from static positions and that, at a given signal, produce a rapid and precise motor reaction.

Due to the complexity of practical shooting, training should be personalized to the needs of each shooter.

THE WARM UP

The competitions and training of every shooter, particularly in dynamic disciplines, must be preceded by a good warm up. This will be the subject of another article, since it is as important as the workout itself.

Finally, I wish to make it clear that these are simply the general outlines of physical training, and that these must always be programmed and conducted by Certified Physical Education Instructors and preceded by a Sports Medicine Physician's checkup.

We must always consult a certified professional in order to adapt our training to our personal needs.

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