

TRAINING – Part II

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The Way to Success in Shooting

By Gary Anderson, DCM Emeritus



Eight of the world's best junior men rifle shooters are shown here at the start of the 50m 3x40 Men Junior final during the 2018 World Championship. These young men are all products of elite junior training programs in their nations (from left to right: FIN, ROU, HUN, IND, CHN, IRI, RUS and SVK). Amir Nekounam from Iran (3rd from right) became the Junior World Champion in this event.

This article is a continuation of the Part I article on “*TRAINING*” that appeared in the Spring 2020 edition of *On the Mark*. That article began with a fundamental premise that in Shooting “*champions are determined by how much and how well they train and not by any measure of natural ability or physical talent that they bring to the sport.*” In Part I we discussed, what training is, training objectives and training methods as well as how effective training programs creatively manage variables in their training environments. Part II describes training principles and training plans, as well as how to put all of this information together so coaches and athletes can develop the most effective training programs.

THE PRINCIPLES OF TRAINING — CRITICAL SUCCESS FACTORS

The principles of training that guide a program’s training activities establish its overall culture. These principles and the culture they create are the critical success factors that distinguish between good programs and great programs. Coaches must understand these principles and in coordination with their athletes and parents make them part of their program’s culture. Critical success factors in Shooting training are:

Positive Repetitions. Firing shots in range training or repeating dry fire repetitions is the basis for Shooting score improvement, but only when those shots or repetitions are

continued...



Improvement and progress during shooting training come from positive repetitions—making repeated correct performances of shot technique in sound firing positions. The athlete in this photo is Ali Weisz, a member of the 2021 USA Olympic Team.



The intensity of visual and mental efforts to see, reduce and slow sight picture movements is a primary means of increasing performance demands for rifle athletes.

performed correctly. Just putting lots of shots downrange does not work. Each practice repetition must be done correctly and with a mental demand for perfection. Here is how positive repetitions work:

⊙ Correct repetitions of shooting skills are the molecular building blocks of marksmanship performance, just as molecules are the fundamental building blocks of all matter.

⊙ When correct repetitions are repeated hundreds and even thousands of times, they cause changes in the athlete's neuro-muscular system that increase hold stability and shot technique precision, which in turn produce higher scores.

⊙ The number of correct repetitions determines how much and how fast shooting score improvement occurs.

⊙ Changes and improvement in performing marksmanship skills occur slowly and gradually over long periods of time. Shooting progress is almost always slow—athletes must strive for improvement but be patient in waiting for it to occur.

Increasing Performance Demands. In sports that test strength and endurance, there is a progressive overload and adaptation principle that applies when athletes' strength or endurance are subjected to training overloads. Training overloads cause the body to adapt, thereby increasing its strength and endurance. A variation of this principle applies in Shooting where performance overloads are mental and visual. Here are some ways to increase performance demands for Shooting athletes:

⊙ Shot technique instruction that exhorts athletes to focus full attention on sight alignment (pistol) and sight

picture (rifle) movements while mentally striving to make those movements smaller and slower places demands on the neural-muscular system that adapts by producing those changes.

⊙ Performance demands are controlled by the physical environments in which athletes train. Posting photos of champion shooters and the scores they fire on the range helps to inspire higher mental performance standards for the athletes who train there.

⊙ Encourage athletes to study winning scores fired by competitors in matches in the U. S. and in ISSF Championships.



Having record matches with competition between team members is an effective way to increase performance demands on the athletes.

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⊙ Keeping personal records (PRs) for training and competition firing introduces demands to increase those PRs during each training session or competition.

⊙ Add stress to training sessions by conducting periodic record matches where scores are ranked. Shoot practice finals where small prizes are at stake. Shooting one-shot elimination matches is both fun and stressful, especially when eliminated athletes can offer noisy, but safe distractions.

⊙ Add disturbances, loud conversations or music to the training environment to help athletes learn to concentrate no matter what happens around them.

Responsibility. There are two aspects to responsibility in Shooting training. First, each athlete must accept the responsibility for doing the training necessary to reach their goals. Second, each athlete must accept personal responsibility for every shot or score they fire, whether good or bad. Taking responsibility for shooting a bad score facilitates learning from it. Throwing a bad target away and pretending it didn't happen is giving away an opportunity to learn.

Goal-Oriented Work Ethic. The most successful athletes and teams are the ones that adopt goal-oriented work ethics. They believe in training and accept that those who work the hardest in training will advance. In Part I of this article, we summarized this principle by stating, “*Only when dreams and goals become commitments to do the work and training necessary to achieve those goals do they become effective goals.*” A guideline regarding how much training must be done to advance from one development level to the next is shown in the chart “*How Much Training Should Athletes Do?*”

Regular Training. In over-simplified form, this principle simply says it's better to do two hours of training on each of five days a week than to do five hours of training two days a week.

Planning. Planning is a major difference maker in ensuring that the work put into training achieves optimum results. Training programs should have an annual training plan and daily session plans. Annual plans ensure that athletes' training years progress through successive phases that emphasize **1)** rest, **2)** skill development, **3)** skill perfection and **4)** peak performance. Session plans

HOW MUCH TRAINING SHOULD ATHLETES DO?

Development Level	Months per Year	Days per Week	Hours per Day
Beginner	4-6	1-3	1-2
Intermediate	6-9	3-5	1-3
Advanced	9-11	5-6	3-5
Elite	11	5-6	5-8

The amounts of training recommended in this chart are general guidelines regarding the amount of training required to advance to the next level of development. Coaches and athletes may further adjust these training numbers according to their actual shooting goals.

ensure that available training time is allocated according to prioritized needs.

Joy. Becoming a better marksman takes work, lots of it, usually over several years. No one is going to continue to do that much work unless they enjoy what they are doing. Going to matches can be fun, but practice also must be fun. How can athletes find joy in training?

⊙ There should be joy in the simple act of making a good shot or firing a good score. Athletes should learn to feel good about these small successes, even when they occur in practice. Praise from coaches and teammates plays a role in bringing joy to these small achievements.

⊙ Athletes should track and graph their practice scores. When they start to see their averages go up, they gain hope in continued improvement that makes practice something to look forward to.

⊙ Being with a team of athletes who enjoy each other's friendship and support each other is a great source of happiness.

⊙ Teams can use social activities like pizza parties, group outings, social events or personal celebrations to build team spirit and the motivation to support each other.

DEVELOPING TRAINING PLANS — ANNUAL TRAINING PLANS

Shooting training produces the best results when it is managed with goal-oriented planning. There are annual training plans, training phases within annual plans and daily or session plans. The coach has primary responsibility for

preparing training plans for the team or club. Advanced and elite athletes must also have individual annual plans that they develop with guidance from their coaches. Annual plans should be written plans that athletes can make reference to throughout the year.

Annual Goal Match. Annual plans are normally based on an entire year, whether active shooting continues for the whole year or only part of it. The first step in setting up an annual training plan is to decide what is the most important goal for the year. Beginning athletes' goals typically focus on learning and mastering skills and entering in their first competitions. Elite, advanced and most intermediate level athletes' goals will most likely be to achieve excellent performances in annual goal match(es). A team goal match may be a league, state or national championship. An advanced athlete's goal match may focus on a CMP national championship, NCAA championship, USA Shooting national championship or national team trial. Many training plans must deal with needing to have two or three goal matches. A school team, for example, may want to focus on performing well in a league or state championship and later in a national three-position air rifle championship. An advanced junior might aim for success at junior national three-position air rifle championships and also at the USA Shooting Nationals.

The Training Year. Once the goal match is decided, annual plans are built around the goal match, which should be the last event in the plan. Most goal matches are in the late spring or summer. Elite athletes will have training plans that cover the 12 months prior to that match. A junior club or school team may have a six- or seven-month shooting season that begins in the fall and ends with a state or regional championship in March or April.

Annual Training Phases. To develop an annual plan, coaches and athletes should divide the training year into four phases:

◎ **Rest Phase.** Training 12 months a year for several years in succession is most likely a formula for burn-out. Active rest must be part of training too. Even elite athletes expect to take three to six-week breaks from training, in most cases, after their goal match is over. Beginning and intermediate level athletes usually have shooting seasons that run from September or October through March or April, followed by a longer off-season when no shooting is done. The rest phase is a time to rest, recover and find different things to do. The rest phase is also an ideal time to acquire new equipment or place a renewed emphasis on physical conditioning.

PRACTICAL TRAINING TIPS FOR JUNIOR SHOOTERS

- ***Believe in training — practice is what makes you better.***
- ***Correct repetitions make the difference — make every practice shot as good as you can.***
- ***Practice as much as you can, but don't practice so much that it's not fun.***
- ***Keep a Shooting Diary or Logbook.***
- ***Find joy in every good shot you fire.***
- ***Keep your goals oriented on performance — not on winning.***
- ***Study the best shooters to learn how they train and shoot.***
- ***Apply time management to get more practice time.***
- ***Practice at home to gain more training days and training months.***

◎ **Development Phase.** This phase can be an exciting time for athletes because it is when learning and testing new techniques and firing position changes should be worked out. Training sessions should be relaxed and less structured. Technical training volume with range firing or dry firing should be moderate to heavy. If matches are scheduled during this period, they should be approached as developmental matches where athletes are free to test new techniques, not be fearful that their status as team members will be at stake and have some fun. Three-position air rifle athletes, for example, might use the CMP-sponsored air rifle postals or the Orion National Air Rifle League that take place during the fall as developmental matches. This is also a good time to schedule matches where younger athletes can learn how to win.

◎ **Performance Phase.** Athletes should arrive at this third phase of the training year with their firing positions and techniques fully worked out. From this point forward, they should not change unless a serious performance problem develops. The emphasis in this phase should be on intense training and achieving consistency in reproducing the firing positions and performing the shooting techniques that were worked out during the development phase. This is normally the time during the training year when training volume is at its highest. A key training objective now is to gradually increase practice and match scores.

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The Camp Perry Open that takes place each year in January includes both air pistol and air rifle events plus unique "Super Finals." This match is good example of a developmental match that athletes can include in their annual training plans.

Many experienced athletes do this by establishing target scores where, for example, they might try to shoot ten-shot series scores of 95 or better in standing, 98 or better in kneeling and 99 or better in prone. Target scores must be realistic yet challenging with an aim toward the athlete being able to shoot those scores in the goal match at the end of the training year. During this phase, there should be regular competitions where the level of competing athletes is as high as it will be in the year's goal match(es).

© **Competition Phase.** The last phase of the training year is the time for achieving peak performance in the year's goal match(es). The goal match(es) will have been on the team's schedule for the entire year and much thought and effort will have gone into being technically, mentally and physically prepared for this competition. The ability to shoot target scores in both practice and competitions by consistently reproducing firing positions and performing shooting techniques should be well established.

The volume of shooting training and physical training may be somewhat reduced during this period in order to make sure athletes' full energy and spirit are available for the big competitions. If the target scores or targeted performance level are achieved in the goal match(es), it will have been a successful training year.

DEVELOPING TRAINING PLANS — DAILY SESSION PLANS

Daily training sessions are the basic building blocks of sports training. One training session will not make a measurable difference in a shooter's scores, but the aggregate effect of a long progression of properly executed training sessions will almost always be significant score improvement. Each practice session must be governed by a plan that includes a **1)** welcome-orientation-instruction, **2)** physical warm-up, **3)** planned amounts of technical or shooting training, **4)** time to evaluate the session and

prepare a plan for the next session, 5) time for equipment maintenance and, whether part of the training session or at a separate time, 6) sport or physical training. The pie-chart shows an approximate allocation of available training time between the six components of daily training sessions. These allocations will, of course, vary according to the development levels of the athletes.

Training Session Plans.

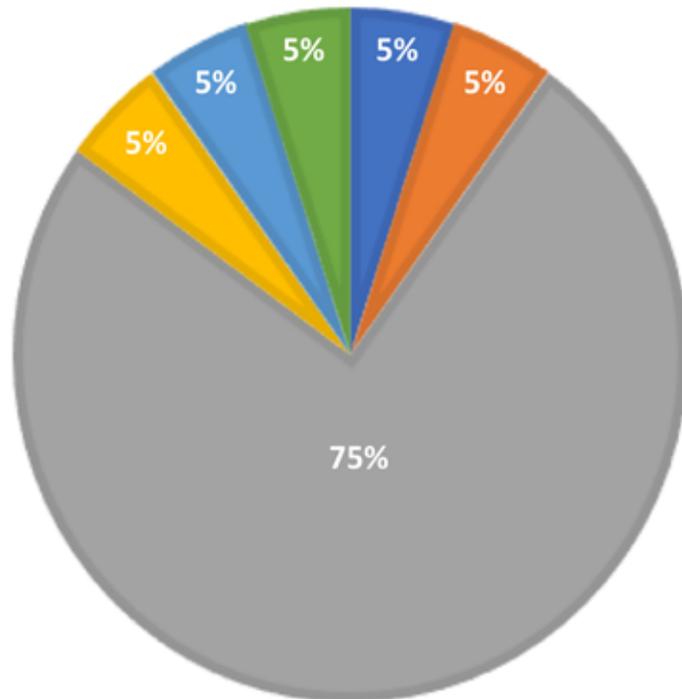
A session plan ensures that athletes gain the most benefit from available training time. The technical training or shooting component, which is by far the largest component, must be mapped out so that athletes know how many repetitions of which types of shooting training they are to do. In rifle training it is also necessary to divide training repetitions between two or three positions. What is included in each session plan is determined both by general requirements in the annual training plan and by details determined during the previous training session's evaluation.

Welcome-Orientation-Instruction. The first training session component varies according to the athletes' development level. A program with beginning and intermediate level athletes may need to devote 20 or 25% of training session time to formal instruction. A team with advanced athletes may need no more than a few minutes at the start of the session to discuss the day's training tasks.

Physical Warm-Up. There is a strong consensus among shooting experts that starting a training session or competition with a stretching routine and light gymnastic exercises is beneficial to overall shooting performance. Daily training sessions should definitely include a brief time when athletes can complete a physical warm-up. Warm-up exercises can also be done with the rifle or pistol. Doing aiming or holding exercises on a blank wall has become a widely recognized warm-up method, especially for pistol athletes.

DAILY TRAINING SESSION TIME ALLOCATION

- Welcome-Orientation-Instruction
- Physical Warm-Up
- Technical Training
- Evaluation-Diary
- Equipment Maintenance
- Sport/Physical Training



Technical Training. By far, the biggest part of each training session is dedicated to technical training. Technical training with the rifle or pistol is usually done on the range with live fire training, dry fire training, holding exercises or working with an electronic training system (SCATT, Noptel, etc.). Daily session plans should project how many shots/repetitions are to be made in each firing position (rifle) or type of fire (pistol). Rifle athletes should prioritize their technical training work by devoting about 10% of this time to prone, 50-60% to standing and 30-40% to kneeling. Depending upon how a training session goes, coaches and athletes should also feel free to modify the types and amounts of shooting training that they do. If an athlete is having difficulty in a particular position, for example, more training time must be dedicated to that position.

Equipment Maintenance. After each day's firing, athletes need to reserve enough time to take care of their rifles or pistols and other equipment. Smallbore rifle athletes, in particular, need to clean rifle barrels after their live fire shooting.

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Training repetitions are only effective when they are done correctly. The coach must work closely with each athlete to identify and correct any errors in position structure or shot technique.

At the end of each session, all equipment must be put away clean and functioning properly. If an item of equipment is not working correctly, this is the time to fix it or make arrangements to get it fixed.

Evaluation/Diary or Shooting Log. One of the fundamental tools for shooting advancement is a well-kept diary or log. Athletes should dedicate time at the end of every training session to record the day's scores and evaluate the technical training that was done by making entries in their shooting diary or log. This evaluation session is normally also the time when plans for the next training session are developed.

Sport/Physical Training. Sport or physical training should also be part of shooting athlete training. Coaches whose athletes have longer training times available each day may be able to include running, calisthenics, light gymnastic exercises or playing a sport like soccer or swimming in their session plans. Coaches whose athletes have limited practice times may only be able to encourage their athletes to run, swim, do gymnastic exercises or practice a sport on their own.

Mental Training. Mental training is part of shooting training, but it is not usually a scheduled activity in training sessions. Mental training does include making shooting diary or log entries. It may include specific efforts during technical training like working out a shot plan. Most frequently, the thought, visualization and mental rehearsals that are part of mental training take place off the range when athletes have quiet time where they can focus attention on these mental processes.

PUTTING IT ALTOGETHER — CREATING YOUR TRAINING PROGRAM

Parts I and II of this article, *TRAINING — the Way to Success in Shooting*, describe the components of training programs that include, **1)** the athletes and their Development Levels, **2)** the Training Environment, **3)** Training Objectives and the Training Methods available to achieve those objectives, **4)** the Principles of Training that constitute critical success factors, **5)** the development of Annual Training Plans and **6)** using Session Plans to guide daily training. The final step in creating a training program that produces optimal results for athletes in a particular situation is putting all of these training components together. The chart on the next page shows how these components fit together and the questions coaches and athletes must answer to establish their training programs.

Starting Point. The focal point of any training program must be the athletes in the program. Therefore, the first questions coaches must answer in developing training programs concern athletes and their development level(s). Next the coach, athletes and parents must decide what their program goals are. Those can vary from “we just want to learn new sport skills and have some fun” to “we want to become a really good competitive shooting team.” After answering those questions, they must evaluate their training environment, so they know what resources they have to work with and manage to achieve their goals.

What and How. The next steps in establishing an effective program are making sure the coach and athletes have a clear understanding of training objectives that apply in Shooting, that is, systematically increasing scores by improving hold stability, shot technique performance, mental performance and physical performance. Then must come a full understanding of the training methods that can be employed to produce score improvements including range training, dry fire training, aiming exercises, mental training, physical training and electronic training systems.

Critical Success Factors. This article described a series of critical success factors that determine whether

CREATING A TRAINING PLAN

STARTING POINT	WHAT & HOW	CRITICAL SUCCESS FACTORS	ANNUAL TRAINING PLAN	TRAINING SESSION PLANS
<p>Athletes: What are the development levels of the athletes in our program?</p> <p>Goals: What are our team or individual athlete goals?</p> <p>Training Environment: What training resources are available to us?</p>	<p>Training Objectives: What must our training program accomplish?</p> <p>Training Methods: What training methods can we use to achieve our objectives?</p>	<p>Training Principles: How do we make sure vital training principles become part of our program culture and make it possible for our athletes to benefit from these "critical success factors"?</p>	<p>Goal Match: What is our goal match for this year?</p> <p>Training Year: When does our training year start and end?</p> <p>Training Phases: How much time should we allocate to each training phase?</p> <p>Matches: Which matches should we schedule?</p>	<p>Technical Training: What training methods will be used? How many repetitions of each type of training will be made?</p> <p>Tasks: What specific tasks must be accomplished?</p> <p>Other Training: What other training is to be included?</p>

a team or individual athlete achieves high performance levels. As the training program is implemented, the coach and parents must work together to make sure these training principles become part of their program culture. They should be taught to every athlete in the program and every athlete should be encouraged to adopt them as personal criteria to guide their training.

Annual Training Plan. Successful training programs use planning to organize their training endeavors. Each training year should have an annual plan that is built around an annual goal match and match schedule. The best plans divide the year into training phases that begin with rest, and subsequently progress through development, performance and competitions phases to end with the goal match.

Training Session Plans. In the same way, every athlete's training day should be governed by a session plan where athletes begin each session knowing what they will do on that day. Session plans should be flexible but still generally identify the types and numbers of technical training repetitions as well as the training tasks and other training that athletes are expected to complete.

When training programs are properly structured by program coaches and leaders and faithfully carried out by its athletes, the result will be the fulfillment of goals identified at the beginning of the training process.

About the Author

Gary Anderson, Director of Civilian Marksmanship Emeritus, retired as the full-time CMP Director at the end of 2009. He continues to work with the CMP as the senior marksmanship instructor. During his remarkable career, he won two Olympic gold medals, seven World Championships and 16 National Championships. He served as a Vice President of the International Shooting Sports Federation (ISSF) from 1990 through 2018. He is a former Nebraska State Senator and Past President of USA Shooting. He served as a Technical Delegate for Shooting during the 2012 and 2016 Olympic Games as well as for the 2014 and 2018 World Shooting Championships.

In 2012, the International Olympic Committee awarded Gary Anderson with the Olympic Order, its highest honor "for outstanding services to the Olympic Movement."

In 2014, the CMP expanded its world-class air gun center at Camp Perry and renamed the facility the Gary Anderson CMP Competition Center, in honor of Anderson's contributions to the organization and the marksmanship community.

