

## HOW TO TRAIN

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By Gary Anderson, DCM Emeritus



How much and how well Shooting athletes train directly determines their competition results. These five teams demonstrated their dedication to training by winning the first five places in the 2024 National Three-Position Air Rifle Precision Team Championship. Those teams were: 1) Texas Hill Country Shooters 2, 2) Oklahoma Sharpshooters, 3) Yellowstone Rifle Club, 4) Galatin Valley Sharp Shooters I and 5) Palmyra Junior Rifle Team. Gold.

Shooting is a high precision skill sport whose athletes must complete thousands of practice or training repetitions to develop their marksmanship skills. There is no such thing as a natural born shooter. There are many sports where unique physical characteristics such as height, strength or speed, are a requisite for success. You can look at a young boy or girl and tell whether they have the physical characteristics necessary to become a successful athlete in sports like Basketball, Volleyball, Football or many athletic events. You will not, however, be able to project future success for a young rifle or pistol athlete by evaluating their outward physical characteristics.

**In Shooting, training, not heredity, is everything.**

**In the sport of Shooting, training is the difference maker. Achieving Excellence in marksmanship competition is determined by how much and how well you train.**

This *On the Mark* article discusses **HOW TO TRAIN** for success in the sport of Shooting. This article summarizes what coaches and athletes need to know about sports training basics for Shooting. It concludes by examining how to deal with everyday training issues that typically face junior marksmen, their coaches and programs.

Sports training has been defined as **“the systematic repetition of sports skills with the objective of learning and perfecting those skills so they may be performed in sports competitions.”** “Systematic” means that each athlete’s training must be adapted to these training variables:

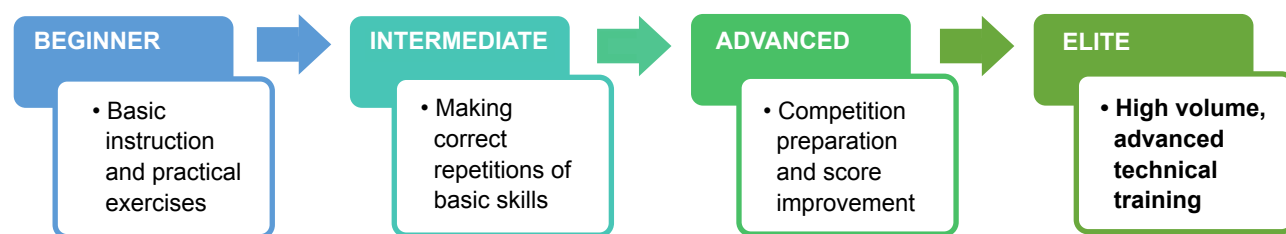
**LEVEL OF DEVELOPMENT.** The amount and type of training marksmen should do varies according to their

**A Note About Photos in This Article:**

The photos included with this article were selected to recognize team and individual athletes who demonstrated the effectiveness of their training programs by winning awards in recent CMP Junior Championships.

## ATHLETE DEVELOPMENT LEVELS

Training demands, technical content, training methods, training volume and coaches' roles change as athletes advance from one level to the next



level of development. A **Beginners'** practice program must facilitate learning the rifle positions or pistol stance and proper technique for firing shots. Beginners' practice sessions, often done in new participant groups, are designed to give them the skills and knowledge they need to fire standard courses of fire. An **Intermediate Athlete** can undertake a regular training program where making correct repetitions of basic skills yields significant score improvement. **Advanced Athletes** are typically active competition participants who increase their training time to enable them to reach individual or team competition goals. **Elite athletes** have set their goals on achieving high performances in major regional, national and international competitions. Those goals demand high volume, advanced technical training.

**DREAMS AND GOALS.** An athlete's dreams and goals play a major role in determining how much training they will do. Most beginning shooters start with a simple goal like, "*I want to learn how to shoot.*" The best way to do that is to join a basic marksmanship class and diligently carry out the practice program that is part of good instruction programs. After beginners learn more about the sport of Shooting, its many competition opportunities and how it is an Olympic sport practiced all over the world, their dreams and goals will emerge. Some will be satisfied with learning how to do a "*cool sport.*" Many set their sights on making their club or school teams. Some will be motivated by opportunities to compete in national competitions, eventually shoot on a college rifle team, win major awards in CMP or USA Shooting national competitions, or even shoot on a USA National Team where they strive to win medals in international competitions. A vital lesson for new shooters is that they must understand how there is a direct relationship between their dreams and goals and

how much they must train. It's easy to say, "*my goal is to become an Olympic gold medal winner.*" the hard part is doing the training work necessary to achieve that goal.

**TRAINING ENVIRONMENT.** An athlete's training environment presents several factors that determine how much and how well they train. The first concerns **how much time is available for training.** Many youths also pursue academic excellence or other sports or musical skills that demand lots of time. Athletes with high goals in Shooting will almost certainly need to give up video game, social media, TV and texting time and learn to apply **time management skills** to find sufficient training time to reach their goals.

**Equipment availability** plays a role in determining progress, especially for athletes who start with affordable sporter class equipment. Pursuing excellence, especially in rifle events, will require investing thousands of dollars in equipment; that usually requires substantial **parental or family commitments.** **Range facilities** are a critical requirement especially as athletes advance into the intermediate and advanced categories. A club range that is only open once a week will not support advanced athlete training and only marginally support intermediate athletes.

**Families** contribute a lot to an athlete's training environment. When families encourage their children to pursue sports that require training to achieve excellence, young athletes are more likely to pursue serious training. The **Team or Group Environment** can make a big difference. New shooters that learn in a team or club that emphasizes hard work and striving to win are more likely to respond to significant training demands. A group that is led by a **well-qualified coach** will benefit from a more productive training environment.

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## A RIFLE ATHLETE'S "HOLD"



A new athlete's standing position hold on the BMC target will have a large arc of movement.



After one or two years of training, an intermediate athlete will have a standing hold like this on the competition target.



After more intense training, an elite athlete will have a standing hold like this. Training is what makes the difference.

## TRAINING OBJECTIVES

Effective training produces improved results in specific aspects of rifle or pistol shooting performance. Coaches and athletes need to understand what those training objectives are and how they relate to achieving higher competition results. Training objectives for rifle and pistol target events are:

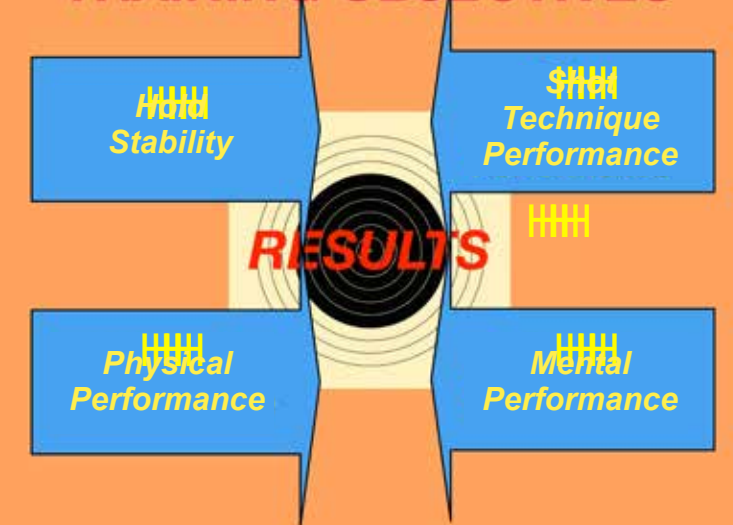
**HOLD STABILITY.** The term "hold" describes the magnitude of front sight movements over the aiming point on the target (*The diagram at left uses imaginary laser trace movements to illustrate the projected points of impact (PPI) of a beginner's hold, an intermediate athlete's hold and an elite athlete's hold.*). There is a direct relationship between how steady a marksman holds their rifle or pistol while aiming at a target and the scores they fire. An athlete's training repetitions produce minute changes in the neuro-muscular connections that impact those movements to gradually reduce their magnitude. Effective practice sessions should produce dramatic reductions in a beginner's hold; elite athletes need to complete tens of thousands of repetitions over a period of several years to produce a hold necessary to compete at that level.

**SHOT TECHNIQUE PERFORMANCE.** "Shot technique" encompasses the actions performed to fire a shot. These actions start with loading and assuming a firing position or stance, aiming to align the gun on the target center, perfecting the sight picture, releasing the trigger to fire the shot, and the follow-through and shot calling that concludes the shot. These actions are usually defined by a shot plan. This sequence is complex, and each action must be performed in a specific way. A critical training objective is to continually improve and perfect shot technique performance.

**MENTAL PERFORMANCE.** Mental training is an important part of marksmanship training. Concentration skills matter in Shooting. Advanced and elite marksmen adopt shot plans and the self-discipline necessary to follow them. Self-control over the athlete's concentration and emotional control is critical, especially during the stress of competition. Training must purposely improve the athlete's ability to perform these actions.

**PHYSICAL PERFORMANCE.** Hold stability is enhanced by muscle relaxation and balance sensitivity skills. Completing rifle and pistol courses of fire, especially

## MARKSMANSHIP TRAINING OBJECTIVES



Marksmanship training repetitions produce improvements in these four training objectives.



during competitions, places physical stresses on the athlete's body. Being in good physical condition prepares the athlete's body and mind to perform its best throughout Shooting events. Strength and strength endurance is required to sustain pistol stability through a full competition event. The athlete's training must enhance those skills.

## TRAINING REPETITIONS

Most training in Shooting is done by making repetitions. Training repetitions are done by firing actual shots, by dry firing or by doing holding exercises. Firing or simulating one shot is one repetition. Even mentally rehearsing the firing of a shot involves repetition. Repetitions are used to describe training volume. Doing 20 shots or dry fire repetitions in one position would be a very light training load. Doing 200 or 300 repetitions would be high volume training.

The effectiveness of training repetitions is determined by these two factors:

### 1. Correct Repetitions.

An athlete's self-study and the coach's technical expertise both play a role in making sure the athlete's training repetitions are done correctly. Each training repetition must be done in a correct firing position and with a correct shot technique. Practicing a poor firing position or a sloppy shot technique will not yield higher results.

### 2. Repetition Intensity.

The athlete approaches each repetition with a mental performance demand. Training repetitions have maximum benefit when each repetition is made as a serious attempt to

score the maximum result. Each live fire repetition should be an attempt to see reduced hold movements and a shot that scores a high ten. Each dry fire repetition should be done with an effort to obtain a high ten shot call.



*These precision individual medalists in the 2025 JROTC National Championship exemplify successful marksmanship training. They are (l. to r.) Kelsey Dardas, Fountain Fort Carson H.S. AJROTC, CO, silver; Kennedy Wells, Granbury H.S. MCJROTC, TX, gold; and Grace Bledsoe, Claudia Taylor Johnson H.S., TX, bronze.*



*These athletes demonstrated the effectiveness of their training by winning the first three places in the 2025 National JROTC Air Rifle Championship in the sporter division. They are (l. to r.) Valeria Alvarado, North Brunswick H.S., NC, silver; Kaitlynn Burrell, Walhalla H.S., SC, gold; and Erin Hiller, Lebanon H.S., OR, bronze.*

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## HOW MUCH TRAINING SHOULD ATHLETES DO?

Development Level	Months per Year	Days per Week	Hours per Day
Beginner	4-8	1-3	1-2
Intermediate	6-9	2-4	1-3
Advanced	9-11	3-5	2-4
Elite	11	5-6	4-7

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

### TRAINING METHODS

Many decades ago, rifle and pistol training were done almost exclusively by going to the range and firing as many live fire shots as one's training time and ammunition supply allowed. The USSR shooters that dominated international competitions in the 1950s incorporated dry fire and physical training into their regular training programs. LTC Bill Pullum inspired international excellence in the U.S. Army International Rifle Team in the 1960s and 1970s with an emphasis on mental training. By the 1990s, the Russians had developed the Skatt electronic training system and had produced Olympic and World Championship medalists who trained almost exclusively on it. As we moved into the 21<sup>st</sup> century, there was a fresh recognition that all these training methods can be used effectively, that how one trains depends upon how well and how much they train while using the training methods available to them. Those methods are:

**1. Live Fire Training.** This traditional training method requires access to a shooting range and a ready supply of ammunition. Since the ultimate test of a marksman in competition requires the firing of live ammunition, every training program must include a foundation of live fire training. Live fire training may be done at the standard distances of 25 or 50 meters, at 200 yards or longer highpower distances or at pistol distances of 25 and 50 yards, but very effective live fire training may also be done on 50-foot indoor ranges on proportionately reduced

targets. Air rifle and air pistol training, of course, is always done indoors on 10-meter ranges.

**2. Dry Fire Training.** Dry firing is the simulation of live firing. The gun's mechanism is cocked without loading and the athlete goes through the same shot plan as if live firing were being done. In many training situations, dry firing can be just as effectively as live firing, **IF** the athlete's shot calling skills are precise and honest. Dry firing has the advantage that it can be done just about anywhere that an aiming bull can be set up and, of course, there are no ammunition costs.

**3. Aiming Exercises** (holding drills). An interesting recent range facility demand by international athletes has been to have access to dry fire ranges where they can do dry firing and aiming exercises as preparation for their competitions. Holding may be done with a proportionately-sized aiming bull with an objective of perfecting hold stability and the athlete's inner position, or holding may be done by aiming at a blank wall. Pistol athletes use this method to perfect sight alignment stability. The length of a hold repetition is determined by the normal breath cycle for a slow-fire or precision shot.

**4. Electronic Training Systems.** Several companies now produce laser or camera-based training systems that record an athlete's aimpoint movement trace on the target during live or dry fire. Playback of the aimpoint movements before, and after the shot allow the athlete and coach to more precisely analyze hold stability and shot technique

performance. These systems feature a tracking device that attaches to the barrel; wireless systems are now available. The most precise systems are relatively expensive, but their use provides data that can be a valuable aid to training.

**5. Physical Training.** A Shooting athlete's physical training starts with stretching exercises done before shooting to prepare the body for optimum performance. General physical training for pistol athletes needs to include strength training, especially for the arm and shoulder that hold the pistol. Strength training is not necessary for rifle athletes and in some cases may be harmful. An athlete's general physical condition is important and should include exercises and sports that build cardio-vascular endurance, flexibility, coordination and strength endurance. Running, swimming, biking and cross-country skiing are all excellent sports for marksmen.

**6. Mental Training.** There are many aspects to mental training that should be part of each athlete's development. They include 1) enhancing motivation, 2) keeping a logbook with records about one's training and competition experiences, 3) mastering emotional control, 4) accepting responsibility for all results, 5) developing and following a shot plan, 6) doing positive self-talk and error analysis and 7) applying visualization skills.

**7. Equipment Selection, Adjustment and Care.** Shooting is a sport where equipment plays a vital role. The athlete's rifle or pistol must be adjusted to accommodate rifle firing positions or the pistol grip. Periodic cleaning, especially for rifle barrels, can impact accuracy. Rifle shooting involves special clothing that requires fitting and adjustment. Training plans must allocate time to these tasks.

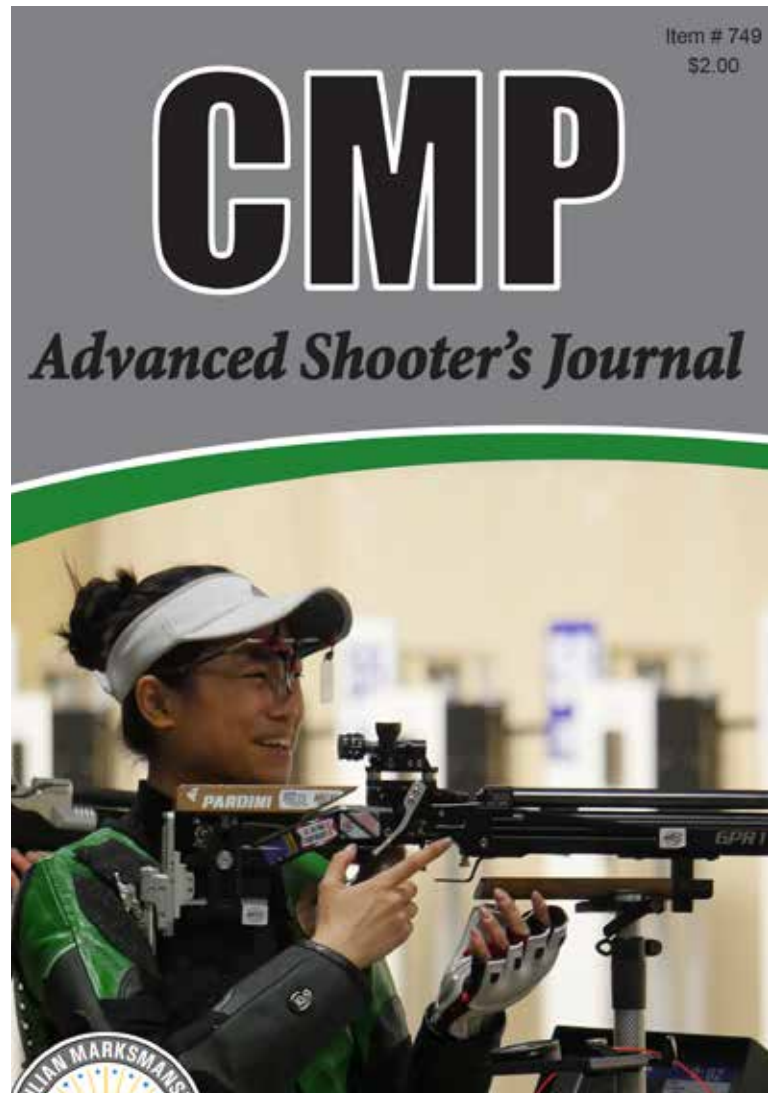
## PRACTICAL MARKSMANSHIP TRAINING ISSUES

After acquiring a basic understanding of training principles, objectives and methods, the essential question then concerns how this information should be incorporated into a productive training plan and program for each individual athlete. There is a sequence of steps athletes should follow to do that:

**A. DECIDE** to follow a serious marksmanship training program (MOTIVATION).

**B. DETERMINE** personal marksmanship goals and the amount of training needed to achieve them.

**C. PLAN** training that best utilizes available training methods.



*Keeping a logbook or Shooter's Diary is an invaluable way to make training more effective.*

**D. PERFORM** the training program (SELF-DISCIPLINE).

**E. ENSURE** that training repetitions are done correctly (This is where a technically competent coach can make a big difference.).

**F. STRIVE** for perfection on each repetition (INTENSITY).

**G. EVALUATE** training progress and goals—adapt the plan to emerging goals and training issues.

Planning and carrying out marksmanship training is a dynamic process. Teams and individual athletes will encounter several training issues as they implement their training plans. Here are some of these training issues together with comments about how to deal with them:

**1. How Much Should I/We Train?** That depends upon your goals. For someone who shoots for fun and



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fellowship, a live fire session once a week may be sufficient. Teams and individual athletes that want to win in national competitions will realize that they must train five days a week. An elite athlete needs to devote four to seven hours a day to training repetitions plus additional time to mental and physical training and equipment preparation. The chart (***How Much Training Should Athletes Do?***) gives guidelines regarding how training volume is related to a Shooting athlete's level of development and goals.

## 2. Which Training Methods Should I/We Use?

Athletes and teams must decide which training methods will give them the repetitions they need to reach their goals and then build their training plans around what is possible. If a range and ammunition are available, live firing should be emphasized. Dry firing is a means of gaining additional repetitions, but if a range is not always available, dry firing must be emphasized. Holding exercises are used as a warm-up and means of developing position or sight alignment stability (pistol). Athletes who have access to electronic training systems should take full advantage

of this great training aid. Allocating time to mental and physical training is part of a comprehensive training plan. In addition, time must be dedicated to adjusting equipment (*especially early in the year*) and to care and cleaning equipment.

## 3. When We Do Live Fire Training, What Should We Shoot?

A common training fallacy is that live fire training should be done by shooting a standard competition course of fire. That may be the best plan for the days before a big competition, but most of the time just shooting a standard course of fire is not a good plan. The fundamental rule here is to do most of your training where you have the most to gain. Pistol athletes may have to decide whether that means stressing precision (slow) fire or rapid fire. Rifle athletes should devote fifty to seventy percent of their training time to the standing position or alternatively, ninety percent of their training time to kneeling and standing.

## 4. What Can I/We Do to Make Training More Effective?

This question addresses the "how well you train" requirement. Make training sessions more effective



The winning Sporter Category teams in the 2024 National Three-Position Air Rifle Championship provide another example of how much and how well Shooting athletes train directly determines their competition results. Those teams were: 1) Jack C. Hays HS TX (center), 2) Trigger Time Shooting Education 4H Club (on left), 3) Zion Benton HS Team 2, IL (on right).

by paying attention to the intensity or mental demand that is involved in training repetitions. Each repetition must be done with a genuine effort to make that repetition as good as possible.

A second answer concerns keeping a logbook (Shooter's Diary) where each day's training or competition results are recorded. Daily entries should try to answer two questions, "*what did I do correctly today?*" and "*what must I work on in my next session to improve?*" Athletes whose scores are recorded in Orion scoring systems have access to analysis tools that allow them to evaluate their shot groups and study the progress of their scores.

**5. How Should We Manage Training When We Have More Athletes Than Firing Points?** The best answer to this challenge is to find a space near the range where a dry fire range can be set up so that all team members get live or dry fire training. An effective dry fire range can be as short as three or four meters. Post aiming bulls on the wall that are calculated to offer the same sight picture that you would have on an actual range. Proper aiming bull heights must be calculated too. Organize team practice squadding so all athletes get some training time on the live fire range.

**6. What About Training at Home?** For many junior athletes who do not have regular access to a shooting range, one of the most realistic ways for them to train to reach their goals is to train at home. To do this, they need to have their own equipment. Training at home can be done with an air rifle or air pistol on a safe 10m range that can be set up somewhere in just about any home. Home training can also be done by dry firing. For the athlete who has limited access to a range, home training is one way to make progress on achieving their goals.

**7. How Should Training Vary During the Year?** Training should be planned on a yearly basis. The end of the training year should be a major competition that provides a results-oriented goal. The first months of the year should emphasize skill development with an emphasis on training for the most difficult positions or firing stages. Training volume may be light at the beginning of the year but should increase as the major competition goal approaches. At the end of each year, there should be a rest period or break from training.

**8. How Do We Keep Training Enjoyable?** Productive, successful marksmanship training depends upon whether you enjoy training. High performance marksmanship training requires athletes to make tens of thousands of repetitions. Doing the same thing over and over thousands of times could potentially be very boring but marksmanship training fails if that happens. Marksmanship training succeeds when there is joy in each repetition. Training must be fun!

The secret to finding joy in each marksmanship training repetition is the challenge involved in trying to make each repetition, each shot, a quest for a perfect shot. The joy of shooting comes from seeing a good shot in the spotting scope or on the electronic target monitor. What keeps the best shooters performing tens of thousands of repetitions in training is how they have made each repetition, each shot, in their training and competition its own special challenge and each time they make a good shot, a source of joy.

Successful rifle and pistol training begins with an understanding that achieving goals can only be done through training. Successful marksmanship training encompasses setting goals and carrying out a training plan that supports those goals. There is joy and fulfillment in performing the repetitions necessary for this plan to succeed. Good luck to every youth who decides to follow this challenging and exciting path to excellence.

### 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.

