

Full-bore- sorting brass

Junior Rifle- weighing each pellet

The



December 2020

Buffalo Chips

MANITOBA PROVINCIAL RIFLE ASSOCIATION

Air Rifle 22 Long Rifle High Power Rifle

Like always, if you have any questions, scores, tips or advice, comments, or have something that you would like to have published in the For Sale / Wanted section, email me at mprachips@gmail.com



All Quiet on the Western Front

Not much to say, hope you and your families are all well, found new hobbies Or have walked more then ever before.

As soon as conditions change and we are allowed at the new air range to set it up, you will hear about its opening from probably me.

All ranges that I know of are closed, so if you have access the safe, private land to shoot on, enjoy.



- **""All things are difficult before they are easy." - Thomas Fuller**
-
- **My take: If you find it hard to hit your target reliably, guess what? You're *normal*! With training and practice, skill will come. -**
- **Kathy@ The Cornered Cat**

DRY FIRE & IMPROVE

Posted by Coach Excellence on July 21, 2017 in *Coaching Hints* | ∞

We all have need to dry fire.

Many top Prone and Position shooters regard dry-firing as legitimate and valuable practice. I offer the comment though, that rim-fire rifles may well be damaged by dry-firing on an empty chamber.

The firing pin may hit on the edge of the chamber, pinning the chamber so that over an extended time a round can no longer be inserted cleanly or there may be a possible damage to the actual firing pin itself and /or the chamber. Firing pins are strong, however why do something that may reduce their accuracy.

Far better to have an empty shell in the chamber. The case is softer than the firing pin and absorbs the shock. But after using lots of these fired cases in shooting practice over the years, I often noticed a small quantity of a grit-like substance, something like sand in the chamber and throat of the rifle.

On tapping a few empty cases on a table it was easy to see where the grit was coming from. It contained some fouling but appeared to be a residue from the bullet case. Consequently to fire a rifle with this in the barrel would seemingly be like firing a rifle with fine sand in the barrel.

So what is the solution?

One possibility is to fully clean the brass you are going to use for dry-firing – take care as it is harder than it sounds to get them really clean and dry on the inside!!

Another solution is to apply the “tap-test” to remove most of the loose stuff inside the brass case.

Another is to use normal cases and run the cleaning rod with a patch through the rifle before your next “live-fire” shoot to remove any residue – easy solution to protect your valuable investment.

Invest in the plastic dry-fire bullets that resemble the real thing – although these are sometimes hard to obtain – check with your local firearms dealer, or look to the internet for online suppliers.



Whatever your solution, remember

The cases (plastic or real) will not last forever and that continual firing in the one spot may make them rather hard to extract from the chamber. After 5 shots or so, extract the plastic case and turn it around so that the firing pin will contact in a different place. Discard the plastic cases after 25 shots or

so.

Use brass cases for 2-3 times only and then discard. Brass cases should be from the bullets that your rifle has fired originally – save and clean your shells

Plastic cases should be constantly checked for any sign of deterioration and then immediately discarded.

What are you trying to do when dry-firing?

Experienced shooters hear the phrase so often, they are probably yawning right now. However, the purpose of dry-firing is

...to train the body to accept a particular course of action over time.

...to give the muscles a chance to adapt to a particular position

...it allows the shooter to quietly work on pure technique and good process, without the distraction of scores, wind, mirage, or rain.

...to train the body so that the muscles will feel comfortable and be reliable in line with the demands of the sport

...to encourage the mind and body to work as a team in the establishment, development or maintenance of a particular shooting position.

...provides excellent "brain-training" about the process of firing the good shot

...to provide an excellent and valuable "off-range" training medium

...to sharpen the senses and improve your "feel" for the position and the rifle.

or dladan@shaw.ca

Just some fall pictures







August, 1921 NATIONAL SPORTSMAN Page 2

WHAT SPORT FOR YOUR VACATION!

TH**ERE** was never such a rifle to knock around with on vacation. And never at such a price. "Every inch a Winchester."

Feel the perfect balance of this rifle—Note the long, gracefully tapered Winchester-proof barrel—the Lyman gold head front sight and new Winchester sporting rear sight with elevator—the full-sized pistol grip stock—the safety features—the downward and rearward sweep of the military style bolt handle.

Watch its remarkable accuracy with either .22 Short, .22 Long or .22 Long rifle cartridges for which it is chambered interchangeably.

OVER 50,000 HAVE BEEN SOLD ALREADY THIS YEAR

Be sure to order from your dealer *early*. FREE leaflet on request.

This rifle deserves the best of ammunition—Winchester Stayless Kopperklad—greaseless—accurate, dependable—the gem of .22's.

Winchester Repeating Arms Co.
New Haven, Conn., U. S. A.

The
GREATEST VALUE EVER OFFERED
in a
SINGLE SHOT .22

\$ **4⁹⁵**

WINCHESTER

TRADE MARK

DRY FIRING with Marcus Raab

Posted by Coach Excellence on December 31, 2017 in [Coaching Hints](#) | ∞

Technical Training-Dry Firing

by Marcus Raab

Introduction

Many of us as coaches and/or athletes are impatient. We want results now if not yesterday. We look for and try many different things to improve the performance of our athletes. Some ideas work, others do not and a few work for some athletes, but not all. There are four areas in which a sport shooter requires training; technical, tactical, physical and psychological. Each area has received a great deal of attention by proponents.

Some tout these ideas as the panacea for all sports, "If you use this mental technique..." or "If you play this way..." or "Do these exercises..." you will be successful.

Unfortunately, we all know there is no "free lunch" and success depends on diligent preparation in all four areas.

Perhaps the least exciting training event most often given to shooting athletes is dry firing. Shooters often find these exercises boring and pointless. But through dry firing it is possible to train each of the four areas simultaneously.

Theories of learning

Good coaches are good teachers, and good athletes tend to be excellent learners. The way we teach, organize training and give feedback also effects how the athlete learns. In order to improve at anything, one must change and that entails learning. You might wonder how do athletes learn physical skills?

To prepare for the following discussion it would be helpful to briefly review how athletes learn. There are two main theories of learning sports skills:

- 1.a) Mental blueprint
- 2.b) Abstracting rules
- 3.c) Motor program

Previously researchers thought that athletes learned by creating a mental blueprint through repeated practice of the task. This theory could explain how athletes learned very simple skills, but could not deal with complex sports skills.

Now researchers believe that athletes abstract key pieces of information from each performance concerning position, movement, perception of the internal position and the actual outcome compared to the intended outcome based on feedback. The brain synthesizes these "abstracted rules" into general rules called "motor programs."

This process is a much more efficient way of learning. In the mental blueprint theory you would need thousands of blue prints to perform skills when competing and choosing the correct blueprint to fit a changing situation would be a huge challenge.

The motor program is a complex set of rules that permit an athlete to produce a movement. It is a generalized plan to make skilful movement. The advantage of this theory is that it allows for minor adjustment to the basic pattern even if the selected movement is incorrect.

Stages of Learning

One of the major responsibilities of coaches is to help athletes develop good motor programs. Many factors can affect the learning of motor programs: maturity and experience of the athlete, their motor and cognitive intelligence and their attention capacity and motivation. Learning is relatively permanent improvement in performance arising from practice. Performance is an observable behavior that demonstrates a skill. There are three stages of learning which form a sort of recycling continuum:

mental

practice

automatic

When you are first introduced to shooting your objective is to understand how to perform correctly; how to hold the rifle, aim, breathe, control the trigger, etc. This is the mental stage, during which the athlete expends a great deal of mental energy to learn the correct technique and strategy. As a consequence of this it is easy to exhaust the athlete by pushing too much too soon. Even with advanced athletes, they will still go through this mental stage when working on improving a specific technique.

During the practice stage the emphasis shifts toward refining the skill through quality practice. The athlete spends more time on this stage than the previous mental stage. The requirement for mental energy is less and the emphasis shifts from learning the sequence to refining timing and coordination. As the athlete learns, he or she will commit fewer errors and performance becomes more consistent.

Highly reliable performance is a characteristic of the automatic stage. As practice continues, the skill becomes more and more automated. Consequently even more free mental energy is available, so much in fact, that it can hurt performance through over analysis.

Shooter athlete training

It should be obvious from the discussion above that if the performance of the athlete is not up to a satisfactory level (whatever that may be) or contains an obvious error, the athlete must change the motor program. That change involves learning new skills to replace (modify) old skills in the current motor program.

How can we train the athlete in the technical aspects of sport shooting? Training technique by actually performing the skill in an environment similar to the competitive setting is the most familiar method.

There are other ways to train technique, observation or mental training. By close observation of the technique of better shooters, observation training can help improve the athletes technical ability or at least provide food for thought. Mental training includes mental rehearsal or visualization of the movement sequences and actions without actively doing them. Do not confuse mental training with the mental stage of learning discussed above.

The most important is activity training with the rifle. For activity training, there are two methods available: dry firing and live firing.

Multiple repetitions of the same correct movements in sequence, either by dry fire or live fire, modifies the motor program. New conditioned responses develop and strengthen and ultimately the automation of movements occurs.

Definition

What is dry firing? Swimmers coined the term dry-land training to describe training that did not take place in the water. While we do not shoot in the pool, dry firing is training (adopting a shooting position and firing a cocked but unloaded rifle) without actually firing live ammunition. It is sometimes part of training at the shooting range, but is more often done at home.

The shooter can detect errors in the technique of firing a shot, especially trigger release, through dry firing training. The athlete also facilitates and reinforces other skills vital to shooting. Despite the fact that such training is not very exciting, most of the best shooters cannot do without it in some form.

Shooting is a sport where the inter-dependence of the individual tasks is high while the complexity of those individual tasks is low. Therefore, by using the whole method of training, the athlete practices all tasks together. Many studies of a number of sports have shown that it is best to train exactly in practice as you would perform in competition, i.e., same equipment, same positions, same techniques, etc. Therefore, this training principle of specificity requires us to:

Dry fire only with the complete shooting equipment

Dry fire using full concentration

Use smaller aiming marks placed at the right height

The most effective system of training is one where the shooter and coach combine live firing with dry firing so that they supplement each other.

- Some coaches advocate dry firing without some parts of the shooting clothing, e.g., without shooting jacket or trousers. It is important to remember that the clothing provides support to the body structure especially the spine in standing. There is some risk to the development of the spine in younger shooters from extended periods of time in the standing position even with the shooting clothing. Therefore, any holding of the rifle in position without the complete shooting equipment should be limited.

Advantages

When live firing is forsaken due to a lack of time, or the range is too far, or ammunition too expensive, dry firing would seem to be something done at home just to stay "in training." However, there are several aspects to dry fire training that live firing cannot duplicate and can offer other possibilities.

The most important advantages are:

Economical training

When you consider that the time involved in a live fire training session usually consists of a third for travel time, a third for unpacking, packing and preparation and a third for actual shooting, then everyone should be dry firing. By accomplishing training at home, there are no traveling times or costs. The cost of dry fire ammunition is very low. Training times are flexible. The total cost of a dry firing session should approach zero, and that should be economical enough for everyone especially when one can achieve a considerable effect.

Multiple/Frequent Training Sessions

Research in the field of learning and training demonstrates that short and regular periods of practice are more effective than longer periods practiced less often. The athlete receives more benefit from practicing six times per week for 30 minutes each, than for 3 hours once a week. Few of us can go to the range six times each week. Dry firing at home can make up the difference.

Start with about 10 minutes for dry firing, working up to 15-20 minutes for young shooters and 20-30 minutes for advanced athletes. This time should be sufficient to settle into a position and concentrate attention on the position. Individuals work at different speeds, so the coach and athlete must be flexible.

Even five minutes per day will produce noticeable improvements in the physical position and in the sequence of movements.

Some guidelines:

Keep sessions short

Conduct frequent sessions

Have a plan for the session that complements the overall training plan.

Concentration on critical elements

Noise and recoil always accompany live-firing. The shot itself, and whether it hits the ten ring takes up a great deal of attention. Your attention to detail disappears and the score begins to dominate your thinking. In dry firing this goal is absent and you are free to focus on the inner position or other critical elements of performance. It is exactly these finer processes, the balance of muscle tension and relaxation and the athletes control over them that have a significant positive influence on the score in competition.

The development and maintenance of trigger control are good examples. The success of the shot absolutely depends on releasing the trigger at the correct time and in the correct manner. If the trigger release is either too early or too late or accompanied by unintentional body movement, there will be unexplained shots.

Trigger errors during live fire often go unnoticed and their consequences dealt with by inappropriate methods to compensate, i.e., changing the sights, modifying an already good position, etc.

Special conditioning

Special conditioning is the ability to meet the physical demands of a particular sport. The pressure of the sling on the arm and hand in the prone and kneeling positions, the weight of the body on the right foot and ankle in the kneeling position, and the training of the back muscles for the standing position are examples of special conditioning requirements for rifle shooting. The athlete can not acquire these specific skills through general strength or endurance training. They develop only through regular practice of the positions.

In order to improve special conditioning, use longer periods of dry fire, up to or even exceeding the time limits for competition. However, If the training session is too long, there is always the risk of the shooter losing interest. Always stop when you detect any loss of interest or concentration. Without full concentration, poor technique can creep in to the motor program and make a mess of what you have worked hard to accomplish.

Disadvantages

The advantages listed above notwithstanding, do not forget that dry firing has limitations. It is also important not to overemphasize this special form of training and reach the conclusion that it could replace actual shooting. There is no substitute for firing live ammunition and observing recoil. During dry firing, the shooter receives no information about any aiming errors or recoil control (for .22 caliber).

Therefore, it is important to put the discoveries of dry training into practice after one or two dry firing sessions by shooting live ammunition at least once per week.

Another problem sometimes associated with dry fire training is that an athlete may not perform carefully because they do not feel the proper responsibility for the quality of a shot. As mentioned above, incorporating the careless, poor technique into the motor program can cause problems.

The shooter and coach must find the correct relationship between these forms of technical training by not overestimating one or the other, or by neglecting either.

Performance Analysis

One of the main criticisms of dry firing is that there is no feedback as to the performance of the athlete.

Without feedback, shooters may have difficulty assessing how good (or poor) their technique is. A performance analysis system can be the link between dry and live firing, providing feedback in many areas, especially on hold and trigger control.

The use of a performance analysis system (SCATT, Trace 10, laser, etc.) in a dry fire mode can be a major help in determining areas to focus on for improvement. Some systems can operate in a live fire mode, that is while the athlete is firing live ammunition, and can also capture effects of recoil on the body-rifle system.

If a performance analysis system is available, use it. The data collected and its analysis can provide some interesting areas for investigation beyond observation of the hold area and reaction during triggering. For example, analysis of the time between shots (rhythm) and shot value can lead to finding the ideal speed and facilitate the peak performance flow state.

Dry Firing Procedures

The place where you dry fire should correspond as realistically as possible to the conditions on the firing point.

Allocate an area large enough to set up all your equipment. It should also be free from outside disturbances, noise of family, the doorbell and the telephone, etc., at least during the period of actual training.

A rifle rest, table or similar piece of furniture that corresponds to the height of the benches on the firing point is also need for the standing position.

As humans are inherently lazy it is always best to have the rifle and the necessary equipment such as jacket and glove ready at all times. This way the athlete can slip on the jacket, put on the glove and pick up the rifle.

It only takes a few seconds to start training.

Safety

Safety is our most important concern as coaches. Sport shooting has an outstanding safety record and it is up to coaches and athletes together to keep it that way. Some simple safety rules:

Ensure the rifle is unloaded

Absolutely never, under any circumstances point a rifle at any one or any thing. Ensure no loaded ammunition is within reach when dry firing at any place other than an approved range. Use an empty (fired) cartridge case or snap cap to cushion the firing pin fall.

Additional Equipment

When we observe other shooters we see them from the outside, but when we are actually performing we do not see ourselves from that perspective. A large mirror can be an important aid to dry firing. It allows the athlete a view of the shooting position not normally seen. These observations help in the recognition and correction of basic mistakes in the position and/or the sequence of movements. A second mirror in combination can also provide a view of the position from many other angles, which can be very instructive!

A video camera is a more advanced method that has some advantages. First, the athlete and coach can review a tape recording many times, perhaps identifying a problem that might otherwise go undiagnosed.

Second, a camera with a zoom lens can make some amazing pictures available concerning eye usage, triggering or hold control. Limited only by the imagination, a camera is a very useful tool. Once set-up it can run continuously with the athlete either viewing the monitor or having no access to the recorded information until after the session.

The athlete can consciously make changes being adopted and carry them out for a short while without actually changing the motor program. In order to see if learning (a modification of the motor program) has actually taken place, make a video record of the particular aspect of the performance. It will show either that the athlete has drifted back to the old technique subconsciously (old motor program) or indeed that learning has taken place as the new technique (modified motor program) remains stable.

Size of aiming mark

In order to give the correct orientation to the positions, the athlete must have an aiming mark. No matter the distance between the position and the wall, the black spot must be in proportion to the actual target at 10 or 50 meters.

One can determine the size of the aiming mark as a direct proportion. Simulate a 50 meter rifle target by a spot approximately 4.5 mm diameter and a 10 meter target by a 6.1 mm spot when viewed from approximately 2 meters. If the position is farther or closer to the wall, adjust the size of the mark accordingly.

Height of aiming mark

Adjust this provisional aiming mark for all three positions. Determine the correct height of the aiming mark by the height of the rifle muzzle in each position. The easiest way to accomplish this is to have a helper measure the height of the barrel above the floor

when in the aiming position at the firing range. By assuming the same position and having the helper measure the height of the barrel above the floor at the dry firing site, find the location of and attach the simulated target on the wall.

Dry firing training

Structure dry firing the same way as real competition. This is a great time to practice those procedures the athlete would use in preparation for actual competition. A pre-competition plan would include a warm-up phase for both the physical body and the mental processes.

Easy jogging on the spot will improve blood circulation. Stretching exercises can eliminate excess tension in the legs, the upper body and the shoulders. Continue physical preparations until you feel you are ready to start.

Give your full attention to making this training event successful. Review the last match or training session. What were the main challenges? What can you do now to find solutions to them?

Use the time for adjusting and preparing the rifle to help focus concentration.

Dry Firing Exercises Internal position

It is human nature to look for a good score rather than to look for sensitive muscle feeling when the shooter fires live ammunition. Dry firing, therefore, is especially good for the development of the inner position.

The position must be built-up carefully, just as one would for competition because the athlete is actually working on the motor program that he or she will use in competition. It makes no sense to train differently because "this is only dry firing." In order to find the ideal position pay close attention to the feet and legs, hips and upper body, the shoulders, arms and hands. Use the mirror or video to check that the position is also visually correct. Check muscle tension.

Building the position in a dark room forces the athlete to focus on the inner position and body sway developing the critical kinesthetic sense. All positions, even prone, depend on balance. We are constantly working against the force of gravity that will topple us over if we are not in balance with it. For example, the sling counter balances the weight of the rifle. If something does not feel right, try to find a better solution.

Sequence of movements

Concentrate on assuming the position. Observe in the mirror the individual movements that are necessary to bring the rifle onto the target. Check the execution of every component of the movement, the placement of the butt, location of both the left and right elbows, the rotation of the upper body, etc.

When the sequence of movements is satisfactory, modify the speed of the sequence. Assume the position five times as quickly as possible without any loss of precision. Then repeat three times in slow motion. Lastly, repeat it three times at normal speed. These exercises help reduce the expenditure of energy increasing efficiency.

Adjusting the point of aim or zero point

When the position is stable and the sequence of movements in taking up the position is correct, the next task is the precise orientation of the position to the target.

Assume the position and close your eyes. Check the inner position. Now open your eyes, and the sights will indicate the natural point of aim of the position. If it is not close to the target, re-orient the position.

By adjusting the placement of the feet (lateral movement) or altering the buttplate/palmrest (vertical movement) the natural point of aim changes. The point of aim is correct when the rifle points naturally at the target. You should check the point of aim before every shot. Once the feet are in place, the placement of the left elbow is critical. Try five hold attempts, the natural point of aim should be correct 4 of 5 consecutive attempts.

Trigger operation

Probably the most challenging aspect of shooting is to activate the trigger smoothly when the sights centre on the target. Trigger control maintenance and improvement is a constant process.

Even a slight defect in trigger operation will cause the disturbance of the rifle and send the shot out of the intended impact area. Technique should be automatic, without the conscious participation of the shooter. Lets break triggering down into three different steps.

The movement of the trigger

The placement of the finger on the trigger is critical. Movement of the trigger finger can not transmit to the rifle. Any motion will cause wild shots. If you move your index finger quickly back and forth while in position, the rifle should remain motionless. Adjust the trigger lever and practice this until you detect no movement.

The moment of release

When the athlete assumes the position, the initial movement of the muzzle is large. While holding and aiming, the movement slows for a few seconds and then increases again. The athlete must find the moment where the hold is steadiest, activating the trigger at that time. Many attempts are necessary before brain and finger achieve this coordination automatically.

Clean trigger technique

While all other muscles of the body remain motionless only the trigger finger moves. Acquiring this skill and implementing it for every shot in training or competition is relatively simple in dry firing, where there is no reaction of the rifle to the release of the shot. By cocking the rifle and checking whether the sight picture remains the same, release the trigger while continuing to watch the sight picture. Practice trigger release by dry firing in a darkened room. Focus concentration on the sensitivity and the movement of the trigger finger. Detect and correct even the slightest faults.

Special conditioning

The athlete must be able to hold position for the time required to shoot one shot and shoot the course of fire without a decrease in quality.

Special physical training must promote the development of groups of muscles that accomplish the static work of maintaining the body and gun in the shooting position, e.g., the stomach and back muscles in standing. It must also develop qualities such as the sense of equilibrium and "muscle feeling" or kinesthetic sense.

The best special conditioning training activities are the shooting exercises themselves based on drills with the rifle in a shooting position. The accomplishment of many of

these special conditioning exercises happens automatically during the course of dry firing exercises.

Rhythm

Each athlete has an ideal rhythm that suits them. Interruption of this ideal rhythm is sometimes necessary to accommodate varying conditions. For example, a prone shooter may shoot quickly (20 second per shot) with excellent results. However, during a final the athlete will find the pace is much slower, around 2 minutes or more per shot. Train this initially through dry firing.

Equipment adjustment and position refinement

When introducing new equipment to the athletes shooting position or when making a change in technique, the athlete should dry fire. The best way to accomplish objective analysis of the change when teaching a new position or refining an existing one, is through dry firing. Live fire with accompanying recoil can mask important indicators of suitability of the change. Only after the change has passed this stage should it make its way into live fire testing.

Fundamentals

There are several areas that are fundamental to shooting success. Mistakes in the motor program concerning these skills will prevent the shooter from progressing. If there are errors, either found by the coach or suspected by the athlete it is important to work immediately on correcting these skills through dry firing. When introducing young shooters to shooting fundamentals such as breathing, eye usage and follow-through, dry firing is a natural step in the progression of skills training.

Breathing

Learning the fundamental of breath control is easy while dry firing. If an athlete of any level of experience is using incorrect technique the coach should work with the athlete on the correct procedure through dry firing.

Aiming

Train the efficient use of the eyes in aiming as a specific element of performance during dry firing. Adjust the rear sight for the correct eye relief. Center the bull in the front sight, stop breathing and shade the eyes to check the natural point of aim. Relax the body completely, then the eye looks through the rear sight to check the location of the bull in the sights. If necessary, make adjustments to the natural point of aim. Shade the eyes again or focus downrange off the target, stop breathing, take aim, then the shooter fires the shot in 4 – 8 seconds. Using the eyes maximum capacity for short periods in this manner does not overstress them.

Follow-through

Training of follow-through can be very successfully done through dry firing. As there is no noise or recoil, the shooter receives no signal to put the rifle down or to flinch at the release of the shot. The shooter can learn to hold the rifle still in the aiming position for two to three seconds after trigger release. Several short sessions with follow-up by the coach may be necessary to improve this fundamental.

Conclusion

Why should shooters dry fire? From the athlete's perspective he or she is after all a "shooter," not a "dry firer." I asked a friend of mine (a US national team member) if he did any dry firing. Other than one or two dry fire shots to settle the position and test the natural point of aim before live firing, he said that dry firing is "...a monumental waste of time." On further discussion he did say that he did extensive work with an electronic performance analysis system.

Dry firing as a training tool must be part of every well-rounded training program. Live firing is fun; there is no doubt about that, but by following a few simple principles shooters' complaints about dry firing will be minimal. Achievement and success in training (and competition) does not come from the quantity but rather by the quality of shots. Dry firing is the fastest way to improve the quality of those shots. We must also be willing to work with the athlete to make training events not only useful in preparing the athlete for competition but also to motivate them to even higher levels of achievement. It is truly a cycle that feeds on itself. Only by effectively planning and executing training can efforts pay off in long-term dividends.

**From everyone on the Executive, Have a safe and Merry Christmas
And Happy and better New Year.**

