

Shooting Fundamentals
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Last issue we mentioned that mental training was just as important as practical training to be successful in biathlon shooting. Through television we've all seen the world-class high jumper prepare for the new record by closing his eyes, pumping his arms and, although standing in one place, bobbing the head and body as if approaching the cross bar. He is mentally rehearsing the movements of the start, the stride to the bar, the foot plant, the thrust and the body turn in the air. This visualization prepares the nervous system and the musculature for action by warming the neural pathways so brain signals are sent quicker, smoother, and in the exact ways that were visualized. This same technique can assist the biathlon shooter to rehearse not only the physical part of shooting but also speed the mental and visual recognition of a good sight picture as well as prepare the mind to handle the pressure of the race and unexpected situations.

A good visualization technique allows the shooter to mentally practice all the various elements that make up the perfect shot. Perfect mental practice translates to perfect practice and reinforces the ability to perform perfectly under the excitement and pressure of a race.

Properly used, mental rehearsal has actual physical effects on the body. Building on brief experiences of success by using the imagination, athletes can learn to create neuromuscular templates which allow for precise and effortless repetition of physical and mental routines. Successful biathlon shooting calls for repeating the perfect shot under physical and emotional stress many times.

The key point in visualization is that it reinforces the shooter's confidence in their ability to shoot the perfect shot again and again under the pressure of the race.

Mental training for shooting then can strengthen the actual technical performance. It also ensures the psychological control necessary to perfection. Charles Garfield, in his book *Peak Performance*, reports, "anxiety, low self-esteem, fear of failure, and old habits can all become part of the mental images the athlete carries into actual play." The results are loss of concentration and an increase in "muscular tension that can destroy or impair physical performance. We overcome or eliminate faulty visualization when we create, and repeatedly practice visualizations of the proper execution of a movement. Proper mental rehearsal is really nothing more than learning to use your mental capacities in a positive way, effectively choosing, rather than leaving to chance, the neurological patterns that will guide your movements." Thus it is important to remember only perfect performances.

Two of the four inter-related stages of visualization used in shooting include:

1. Visual rehearsal: Where the biathlete mentally stands aside and watches the body in the act of shooting. Many shooters have difficulty getting started with visualization. Use your video camera to make a record of actual practice while being careful to create the perfect range procedure, shooting position, cadence and sequence of shooting for the film. Then watch the perfect performance sequence over and over to assist in forming the mental images. Show all angles of the *correct* range performance to help the athlete ingrain the images for visualization. All visualization should be based on firing the perfect shot.
2. Actual rehearsal: The next stage is more difficult. During actual rehearsal the athlete does not visualize standing aside and watching, but steps into the visualized body and mentally performs the events. This is the most important part of mental training. This same method is used by most golfers when they take a practice swing at the imaginary ball just before taking the actual swing. It warms the muscles and prepares the neural pathways for the correct brain signals.

The athlete should be able to see the sights and target as well as feel the muscles and the weight of the gun. Many athletes need help from a coach or sports psychologist to reach this stage. Ultimate smoothness often requires breaking the skill into its component parts and then focusing on each in a step-by-step process. Stanford University researcher, Karl Pribram, calls these visualization images, "mental holograms." He describes them as "three-dimensional mental images that direct nerve impulses to all muscles of the body that will be involved in the actual execution of the task.

Name each element of the shooting process as you think of the perfect image of that element. By using a word or short phrase to remind yourself of the important elements you create a checklist which is easy to use during competition. I.e. "breathe," "hold," "aim center," "sight align," "squeeze." While this looks like it would take a long time to remember in a race where time is all-important, it really only takes a fleeting moment. Take time now to analyze the act of shooting a perfect shot and then make a list of key words that can trigger the perfect image to leap into your mind. Next issue we take up ultimate-you rehearsal.

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