

Shooting Clinic, Alaska Biathlon – Anchorage

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Session 9: Fundamentals Revisited, Etc.

A. Fundamental Steps to a Well-Aimed Shot

1. Position

a. Importance: provides a stable platform to support the rifle for a well-aimed shot,

b. Elements for a stable position:

- triangles of support (contact points: elbows, lower ribs, handstop/sling, shooting cuff/sling, butt plate/shoulder),

- rifle supported by bones, i.e. little (standing) or no (prone) muscular effort; eliminates effect of inconsistent muscle contraction, and muscle fatigue that can transmit tremors to the rifle,

- sling adjustment: if too tight, may make it difficult to get into correct position; if you can easily move the rifle into the shoulder notch, the sling is too loose – you should have to place it in the shoulder with some effort (e.g., using thumb to guide butt plate into notch).

2. Natural Point of Aim

- when you settle into position, this is where your position points the rifle - not necessarily at the target initially, which is where we want to point the rifle; that is accomplished by adjusting the position,

- why NPA is important: serves as a check to determine if we are forcing the rifle on target with muscular effort which can result in transmitting muscle tremors to the rifle.

3. Breathing Control

- breathing should stop at full exhale (i.e., at the natural end of the breathing cycle, not forcing more air out than you would normally) rather than trying to stop at some intermediate point, which may be hard to duplicate for each shot, and in prone shooting may result in the rifle sight stopping at a different point on the vertical plane each time instead of close to being centered on the target,

- if you try to use breathing to stop the rifle on target, it likely will be a different point in the breathing cycle each time; it is easier to stop at the same point consistently using the full exhale point,

- also, there is a short natural pause for a few seconds at the full exhale point which gives you a short interval to complete the firing process without the interference of breathing movements,

- if you are not on target vertically at the end of your exhale, you need to adjust your hip position: sliding slightly to the rear moves your aiming point up, slightly forward moves it down.

4. Trigger Control

- squeeze the trigger smoothly and directly to the rear,

- apply uniform pressure to the trigger when the sight is on target with an acceptable sight picture,

- at some point, essentially unknown to you, increasing pressure on the trigger will cause the rifle to fire; if you applied pressure directly to the rear you will not pull the rifle off target,

- alternatively, if you actively pull the trigger to 'make' the rifle fire, it is likely that you will move the rifle off target; this results from your reaction to the rifle firing when you know it is going to fire – it takes great discipline to overcome this reaction.

5. Follow Through – see discussion on this aspect in session 5 notes.

6. Call the Shot – see discussion on this aspect in session 5 notes.

B. Attention Items

1. Zero

- for routine practice, it is best for the shooter to scope where the shot went based on where it was called; if it did not hit close to where called, current conditions caused it to move where you did not expect it to go (assuming you accomplished all aspects of a well-aimed shot adequately) so some sight adjustment should be made,

- at this point you're not doing an actual zero since you have a no-wind zero marked on your sight knobs; you're just adjusting for the current conditions,

- in a competition situation, where a coach must verify the zero for several team members in 45 minutes with only one lane available for zeroing, the routine above may not be practical with these limitations so the coach will need to scope the shots and call the adjustments,

- why is it important to know the zero: zero for the conditions of the day will be set on your no-wind zero; then if conditions have changed when you come in from a ski lap, you can make a simple adjustment with confidence (oxygen deprivation from high intensity work load on course slows thought processes, so you don't want to be thinking about complex aspects of how to adjust the zero at this point).

2. Wind (review notes for session 8)

- angle of flag to flagpole (vertical) divided by 4 = velocity in mph,

- effect depends on direction: from 9:00 and 3:00 = full value wind; about 1:30, 4:30, 7:30 and 10:30 = half value, etc., e.g. if a full value wind moves bullet strike $\frac{1}{2}$ ", it will move the strike only $\frac{1}{4}$ " if the direction changes so it becomes a half value wind,

- problem: how many clicks will compensate for a brisk breeze moving the strike of your bullet 1-1/4"; if 1/4 minute of angle = 1/4" at 100 yd on your rifle?

3. Competition

- pre-race (or pre-practice): inspect the rifle, making sure the screws attaching the sight, harness and attachment block, handstop, sling attachment, butt hook, butt plate and spacers, cheekpiece and spacers, magazine holder, spare round holder are tight, and the sling hook and harness cords are secured properly,

- before your start at a race, do not let the rifle out of your sight after it has been zeroed and checked,

4. Training

- if you have been involved in the sport for a year or two, at least part of your training should integrate skiing and shooting, beginning at a relatively easy level and then progressing to more intense workouts that ultimately simulate race conditions in both distance and timing,

- integrating the two disciplines requires modifying somewhat your ski race technique so you enter the range in your optimum state for accurate shooting,

- you will need to determine this optimum in terms of breathing control and heart rate control; reduction to what levels are necessary for you to be able to hit the targets consistently? How far from the range do you need to begin the management of these factors?

- the most valuable tool for achieving your biathlon goals is dryfiring consistently throughout the year, including position holding, thinking through the range and firing process, and focus 'in the zone' by excluding all potentially disturbing activities going on around you (focus instead on some aspect of the process you want to accomplish).

C. Etc.

1. What level of achievement will satisfy your ultimate interest in the sport of biathlon – recreational, middle of the pack, top three, number one?

2. Continuing achievement in biathlon is dependent on desire, setting priorities and goals, willingness to commit increasing levels of effort, focus on doing all steps correctly, physical development and training that emphasize sport-specific requirements, and mental discipline to integrate all aspects of the sport you have developed, resulting in success at the level that will satisfy your ultimate goals.