

# EVERYTHING YOU WANTED TO KNOW ABOUT BIATHLON (But Were Afraid To Ask)

(This is a draft - Beta Version – so if you see mistakes let me know)

## OVERVIEW

This is a structured collection of lessons, ideas and activities designed to help facilitate a beginning biathlon program. The lessons primarily focus on the five core principles of shooting: **Follow Through, Trigger Load, Natural Align, Back Sight/Front Sight** and **Breathing**. Do these five things perfectly and you will never miss a target.

## LESSON TOPICS AND ATHLETE ACTIVITIES

**Lesson 1 – Biathlon Basics** - Athletes are introduced to the sport and some of the vocabulary. Athletes complete a wordsearch “**Rabbit To Rock**”.

**Lesson 2 – Follow Through** - Athletes learn the concept of follow through, how a bullet works and complete a shooting drill called “**Fifteen Seconds of Follow Through**”.

**Lesson 3 – Trigger Load** - Athletes understand and demonstrate trigger load first with a dry-firing activity called and then a live firing in an activity called “**How Low Can You Go**”.

**Lesson 4 – Breathing** - Athletes are introduced the most commonly used **breathing pattern** for beginner shooters and the concept of waterline. Athletes then shoot a precision target in an activity “**Precisely my Dear Watson**”.

**Lesson 5 – Back Sight/Front Sight** - Athletes are introduced concept of back sight/front sight and become aware of how critical this is and shoot a pair of precision targets for comparison.

**Lesson 6 – Natural Alignment** - Athletes are introduced to concept of natural alignment, learn how to adjust it and then complete a drill called **El Kabong!**

**Lesson 7 – Combo Shooting** – By shooting on paper targets, athletes deal with shooting with a heart rate, learn how to do **one-shot-setups**, and practice **Combo** shooting on metal targets.

**Lesson 8 – Mental Visualization** - Athletes do a **guided imagery** activity to prepare them for shooting, then develop and practice their own personal imagery to be used every time they shoot.

**Lesson 9 – Race Practice** - Athletes learn about the many different formats for biathlon races and, in pairs, do a race simulation of a **Single Mixed Relay**.

## LESSON 1 – BIATHLON BASICS

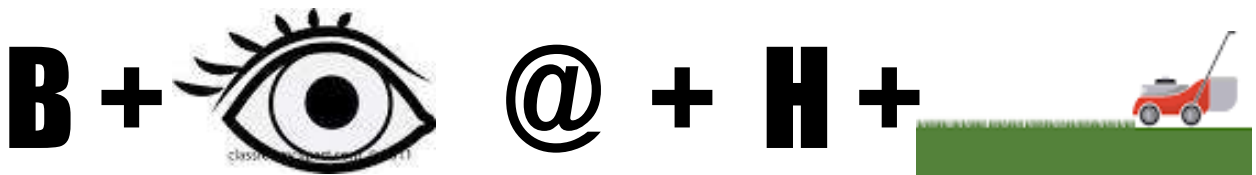
### Athlete Objectives and Activities

Athletes are introduced to the sport of biathlon becoming familiar with biathlon terminology and vocabulary.

Athletes complete a Wordsearch called “**Rabbit To Rock**”

### Suggested Coaching Strategies

Introduce the lesson by challenging athletes to solve the following riddle:



The back of target paper used for zeroing works well for drawing or listing concepts. Give hints if necessary. (Answer is “Biathlon”)

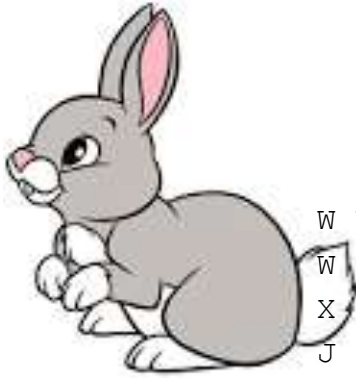
Discuss with athletes what the sport of biathlon is and get them to explain what some of the challenges of the sport are.

One definition that is often given: Biathlon is an Olympic sport that combines the two disciplines of precision target shooting and cross country skate skiing.

For the next activity athletes complete a wordsearch called “**Rabbit To Rock**” but note that this is not a simple paper and pencil or pen activity. Athletes will have to solve the puzzle “Biathlon Style”. Decide on a start line and have the athletes line up. Athletes will have to run around a pylon that is set 25 meters away and return before they can search for the puzzle words. Athletes can only circle one word before running to the pylon again.

Athletes can work in pairs for this activity with both athletes running to the pylon together before finding a word or in a relay style where one athlete runs, solves a word and then tags their partner.

After the activity is complete, draw the athletes together and discuss the vocabulary.



# Rabbit To Rock

W W X E G G J E G A J C K Q R I F L I N G N L K  
 W Y S C T V O Y G C H A M B E R X O X I K M Y V  
 X T P H E H E C I B G F G Z C B H R W Y C L C M  
 J E Z O G A F O L L O W T H R O U G H Q X C H Y  
 W K C A C J L O F T Q K L C W T Q Q Z N M A E Z  
 J F L E M A G A Z I N E J W E P N S J U E S E J  
 R Z I K U P D W Q Q A C R X M A K M E N D I K B  
 S V P P N B B A C K S I G H T M H H Z Z R N P P  
 T J S Y A U T T H T R I G G E R L O A D Y G I B  
 J T T A T T B E B T G U N P O W D E R G F O E R  
 V R O B U T V R A H F R O N T S I G H T I C C E  
 I I C W R L G L R D S I F O Q A L P H A R V E A  
 S G K P A B L I R H G H K L F A Z Y Z D I P A T  
 U G B Z L V X N E S K A T E S K I I N G N C C H  
 A E I B A Z M E L W D Z G T K W X Z X U G J O I  
 L R A P L G G B G D O M H C H A R L I E T R M N  
 I K T R I I O U C L Q R Z A M M M O I D X D B G  
 Z V H E G F Z L T R N B F L N I B Q G H B E O Z  
 A E L C N Q D L J I A F H V B I U W N F R I M C  
 T M O I M B B E F F B L G U N R W G L A A E X O  
 I F N S E K V T F L D E L T A V M T D C V B L K  
 O J K I N C X W Z E N J W F B G H M Q U O L R M  
 N T Q O T Y O L Y M P I C S Z M T P B K D V C Z  
 D G T N W U L I I F I R I N G P I N H X J O N Q

Olympics

Precision

Charlie

Breathing

Follow Through

Combo

Firing Pin

Front Sight

Stock

Rifling

Biathlon

Butt

Echo

Bravo

Dryfiring

Visualization

Clip

Skate Skiing

Back Sight

Gunpowder

Cheek Piece

Waterline

Chamber

Delta

Alpha

Trigger Load

Natural Alignment

Magazine

Casing

Trigger

Barrel

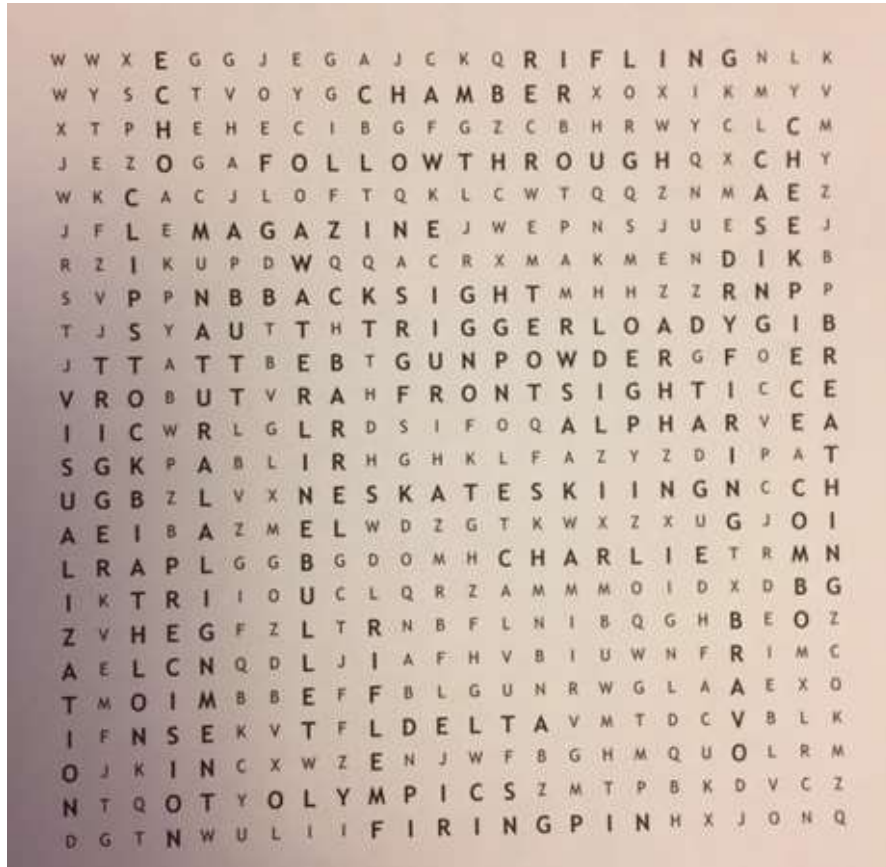
Bullet

Rifle





# Rabbit To Rock



- |                |               |                   |
|----------------|---------------|-------------------|
| Olympics       | Butt          | Chamber           |
| Precision      | Echo          | Delta             |
| Charlie        | Bravo         | Alpha             |
| Breathing      | Dryfiring     | Trigger Load      |
| Follow Through | Visualization | Natural Alignment |
| Combo          | Clip          | Magazine          |
| Firing Pin     | Skate Skiing  | Casing            |
| Front Sight    | Back Sight    | Trigger           |
| Stock          | Gunpowder     | Barrel            |
| Rifling        | Cheek Piece   | Bullet            |
| Biathlon       | Waterline     | Rifle             |



## LESSON 2 – FOLLOW THROUGH

### Athlete Objectives and Activities

Athletes understand the concept of **follow through** which is to hold the trigger down for about a half to three quarters of a second after the trigger has been squeezed so the bullet has time to leave the barrel of the rifle. Athletes complete a drill to demonstrate understanding called “**Fifteen Seconds Of Follow Through**”.

Athletes learn what happens when a bullet is fired from a rifle.

### Suggested Coaching Strategies

Introduce the concept by having athletes toss a ball through a hoop. (If you have access to a gym have the the athletes shoot basketball “free throws” but any size ball and any type of hoop like one made out of a bent coat-hanger will do fine.)

Athletes will quickly see that that after the ball leaves the hand, it is important to continue the movement with the “follow-through”. Then ask them to name other sports and demonstrate follow through in those sports. Shooting a puck in hockey, pitching a baseball, throwing a football, hitting a golf ball, spiking a volleyball are a few sports where follow-through is essential.

If possible, show professional athletes doing follow-through in various sports. Youtube is an excellent resource for this.

Next explain the entire process of a bullet being fired from a rifle. (The term “rifle is preferred as compared with the term “gun”) It is best to have an actual bullet, an empty casing and rifle with the bolt taken out available for this demonstration. This will underline why proper follow-through is important to accurate shooting.

Most athletes should understand this process from their firearms safety training but one suggested description is as follows.

If you look at this unfired **bullet**, it is made of three main parts. The **brass casing** which is full of **gunpowder** and the **lead bullet**. The bullet is loaded into the **chamber** of the **rifle** and the **bolt** is closed. This loads a spring in the bolt that causes the **firing pin** inside the bolt to move forward very fast when the **trigger** is squeezed. The firing pin hits the back of the bullet. This causes the gunpowder inside the casing to explode. The **gases** made by the explosion have nowhere to go and break the bullet apart pushing the top (lead) part down the **barrel** of the rifle. The **rifling** in the barrel causes the lead part of the bullet to spin as it moves down the barrel pushed by the high-pressure gases from the explosion of the gunpowder. (Have athletes look down an empty barrel from the rear - with the bolt removed - so they can see the spiral rifling on the inside of the barrel) As the bullet is leaving the

end of the barrel or **muzzle**, gasses from behind also come out of the barrel and still have an effect on the bullet. **(THIS IS THE REASON FOLLOW THROUGH IS IMPORTANT** – If the barrel moves just slightly as the bullet is leaving the barrel, the gasses will push the bullet off course causing a miss)

Next complete an activity called **“Fifteen Seconds Of Follow Through”**. This is a dryfiring activity (shooting practice without live bullets) but can also be done with live bullets.

**\*\*\* Note \*\*\***

Be sure to double check that everyone’s rifle is unloaded for safe dryfiring. It is best never to have loaded clips (magazines) or bullets anywhere near the rifles during dryfiring activities. (It is illegal to store or transport rifles with loaded magazines or bullets present)

Athletes sit cross-legged in a circle with their unloaded rifles pointing straight up. Ask them to close their bolt for dryfiring (only part way) and to squeeze the trigger. Say “Fire” and then have them count to five still keeping their trigger finger held down (the holding down the trigger is the follow through). Say “Reload” and then “Fire” again, this time having them hold the trigger down for four seconds. Repeat with a follow through of three seconds then two seconds and finally one second. Altogether this makes fifteen seconds of follow through.

This drill is for practice and explain that a five second follow through is too long and not realistic in a race situation. (The correct length of follow through is about a half to three quarters of a second.)

Athletes can practice this drill on their own without needing dryfiring targets to aim at.

**\*\*\* Note \*\*\***

It is important to have the athletes learn good follow through from the very beginning since it is quite difficult to get them to change this mid season once bad habits have become engrained. It has been argued that this is one of the main reasons that people who have never done any previous shooting often learn precision shooting quicker than others who have to “unlearn” poor habits.

Another strategy that helps athletes shooting at metal targets with follow through is to have them try to hold their trigger finger down (follow through) as they watch the paddle on the metal target flip up **through their sights**. Then bolt.

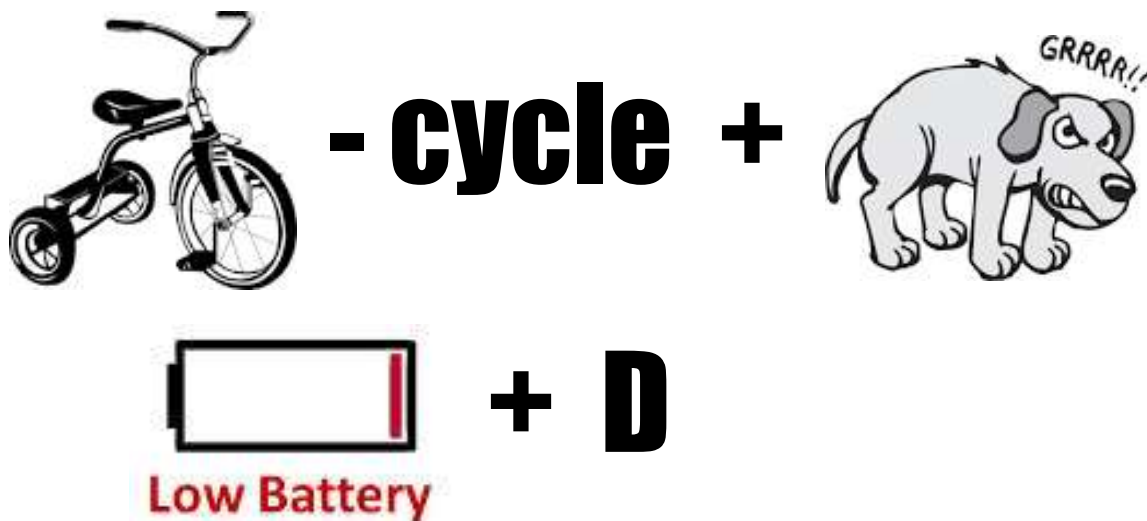
## LESSON 3 – TRIGGER LOAD

### Athlete Objectives and Activities

Athletes understand trigger load and complete a drill “**How Low Can You Go?**” where they estimate and practice their **trigger load**.

### Suggested Coaching Strategies

Introduce the lesson by challenging athletes to solve the following riddle:



An alternative fun way to introduce the concept could be to hold a Limbo contest and see how low they can go.

Show a close-up picture of an elite level biathlete from a World Cup video on Youtube or from [biathlonworld.com](http://biathlonworld.com) with the camera zooming on the athlete’s trigger finger.

Point out how the trigger finger barely moves as the shot is taken.

Explain that the best athletes have great trigger control and they are able to pull the trigger to within 5 grams of the 500 grams of pressure needed to cause the trigger to release.

This ideal trigger load of 495 grams (or preload as it is often called) is important because when the athlete’s brain tells the finger to take the shot, only a small amount of extra pressure needs to be applied. This process happens far too slow if for example the athlete needs to go from 200 grams of trigger pressure up to 500 grams, causing a miss.

It is often useful to explain the concept of “**Trigger Load**” and “**Follow Through**” and as being being “in control”. (Follow through and trigger load together make up **trigger control**) As in, most athletes would sooner like to think of themselves as having “good trigger control” rather than being a person who “jerks the trigger”.

For the activity, “**How Low Can You Go**” again, have athletes sit with legs crossed in a circle for a dryfiring activity with unloaded rifles pointed skywards. Ask them to close their eyes.



Tell athletes to close their bolts. (Remind them that for dryfiring, only close the bolt part way so that the firing pin doesn't smash against the breech and wear out the firing pin) Then have athletes take up the first bit of slack on the two stage trigger, then squeeze the trigger 70% . Wait for two seconds. Now, squeeze to 80%. Hold for two seconds. Then squeeze to 90% . Then to 95%. Then fire.

Sometimes the triggers will fire at 80 or 90 percent but this is okay as the athletes are learning how to squeeze their triggers.

Repeat this drill ten times seeing how close athletes can get to 100% athletes before the shot goes off.

This drill can also be done with live firing. Instructions could be as follows: Get Into position, close your bolt, take aim, take up the slack on the two stage trigger, now squeeze the trigger 70% . Wait for two seconds. Now, squeeze to 80%. Hold for two seconds. Then squeeze to 90%. Then to 95%. Then fire.

**\*\*\*Note\*\*\***

Be sure to encourage a solid one second follow through after the shot is taken to engrain good habits.



## LESSON 4 – BREATHING

### Athlete Objectives and Activities

Athletes learn a typical three-breath **breathing pattern** used in biathlon shooting. As well, they learn the concept of waterline and how to “come up on the target”.

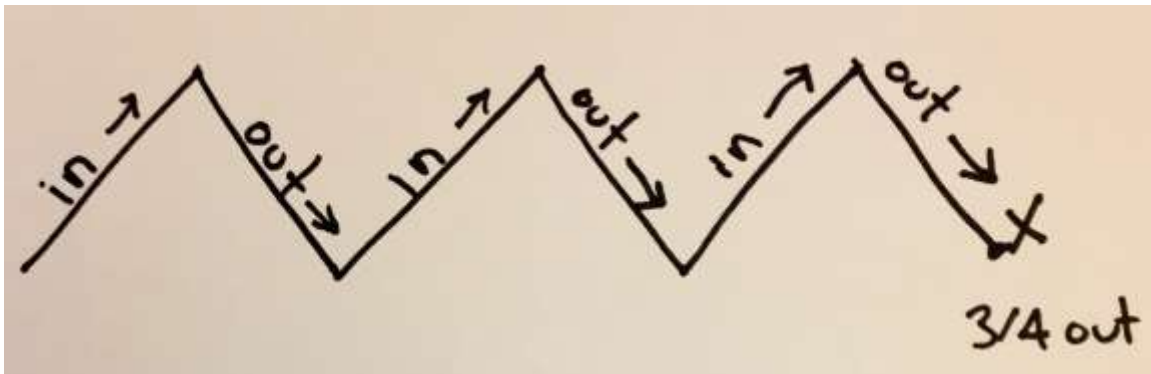
The related activity is “**Precisely My Dear Watson**” which involves athletes shooting and scoring a precision target.

### Suggested Coaching Strategies

Introduce the lesson by showing athletes a clean (un-shot) paper target with the precision circles on it and challenging them to guess how many times out of sixty shots the very best shooters in the world hit the ten ring.

The answer is 57 times a very good shooter would hit the ten ring with 3 other shots hitting the nine ring. Point out that in biathlon you have to hit the eight ring for the metal target to fall.

For a drill, again prepare to have the athletes dryfiring in a circle. Use a stick to draw the pattern below on the ground or use a marker on paper. Go through a proper breathing cycle with athletes in a group demonstrating controlled breathing.



**in ----- out ----- in ----- out ----- in ----- out ----- fire**

The shot is to be taken after three quarters of the final breath is taken. (Some coaches say a half breath out or a full breath out on the final breath which is fine but explain that athletes definitely should not take a breath in and hold it and then take the shot)

Repeat the drill with the athletes following the directed breathing cycle ten times. Also remind them to not forget about proper trigger load and follow through.

Next, switch to live fire and introduce the idea that as the third breath goes out of the lungs the sights come up on the target – never down. When this is happening explain that the sight picture should never rise above **the “waterline”** – an imaginary line in the middle of the target where the exhaling breath naturally stops the rifle from going higher. The breathing is what controls the “up and down” movement of the rifle.



Again, do ten shots with the coach directing the shots.

**\*\*\* Note \*\*\***

Athletes need to understand that if they don't have the target lined up correctly for a shot after the third breath they should not wait for too long struggling to try and find it. If they wait too long, their brain will run out of oxygen causing bad shooting decisions. They should instead take another breath to try to get a better sight picture.

After athletes have practiced their breathing sufficiently, let them shoot twenty precision shots on their own concentrating on breathing. **“Precisely My Dear Watson”** Ten shots on a top target and ten shots on a bottom target.

While shooting precision, athletes should shoot slowly. They are allowed to use a scope to check how they are doing during their shooting and make corrections if needed. Also, know that the correct way to do precision shooting is to **single load each shot**. (Put an empty magazine into the rifle first and hand load each bullet, one at a time)

Biathlon Canada has an excellent on-going completion for developing athletes that involves shooting precision targets. Look on the website for more info [biathloncanada.ca](http://biathloncanada.ca)

Have athletes score the targets to see how they do out of 100.

One of the ways to score a target is to:

- 1) starting from outside and working towards the middle, write down the numbers beside the bull.
- 2) Count the numbers to see if there are ten shots
- 3) Add them up
- 4) Write down the total
- 5) If the target is particularly good or a milestone (such as first time shooting without a rest) the coach may choose to sign and date the target for the athlete to take home. Athletes will often take pictures of excellent targets with their phones.
- 6) If a bullet hole cuts the line it goes to the higher score when it is counted.
- 7) Scores of 90 in prone and 60 standing are excellent as a rough guideline.
- 8) Athletes often get preoccupied with every single shot and are concerned about their score being wrong. Advise them to chill and not get worried about minor errors.
- 9) Once an athlete can shoot above 90, they may want to simply count back from 100 for each shot as an easier way to get an accurate score.



## LESSON 5 – SIGHT PICTURE - BACK SIGHT FRONT SIGHT

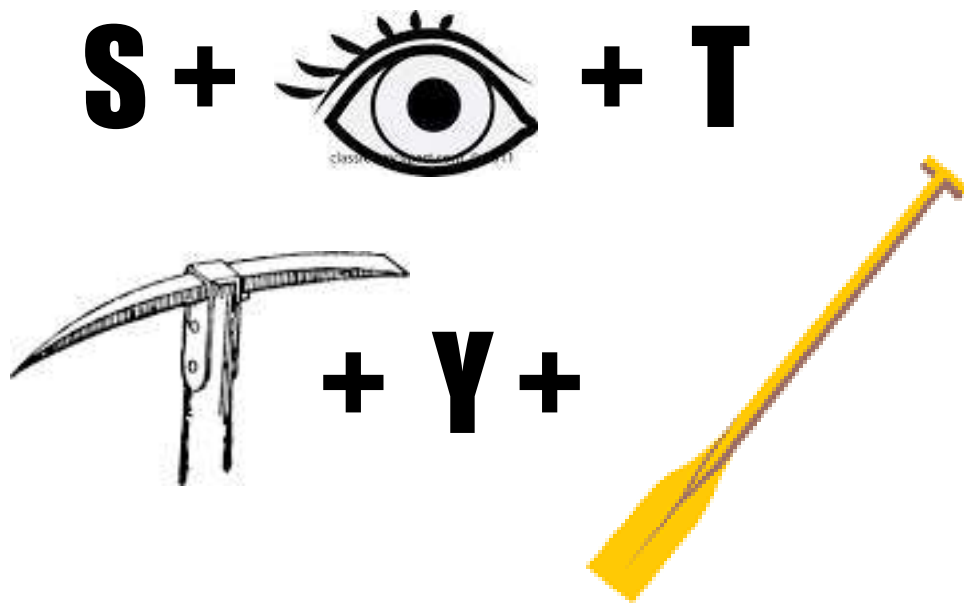
### Athlete Objectives and Activities

Athletes are introduced to the concept of **Back Sight/Front Sight** for lining up their sight picture.

Athletes are made aware that this is the most important of the five shooting principles and Back Sight/Front Sight alignment **must be perfect** if they want to hit targets. Athletes then shoot two precision targets.

### Suggested Coaching Strategies

Introduce the lesson by challenging athletes to solve the following riddle:



Explain to athletes that shooting is simple. All you have to do is **line up three circles**, squeeze the trigger and you will hit the target every time.

The three circles are 1) the circle made by the rear or **back sight** that is closest to the eye 2) The circle made by the **front sight** 3) the black circle made by the **target**.

Here's how it's done:

*First put your cheek on the cheek piece and look through the circle made by the rear sight. Back Sight. Then line this Back Sight up with the circle made by the sight at the end of the barrel. Front sight. When the Back Sight and Front Sight are perfectly lined up (circle within a circle) then look for the third circle made by the target and line up the target so that now all three circles are aligned.*

*Now here is the important part. After you have the target in the center, double check that the **Front Sight and Back Sight are still a perfect circle within circle**. If the Back Sight and the Front Sight are not perfect **YOU WILL MISS**. Redo step one until the Back Sight and the Front Sight are perfect, then find the target, then double check the Back Sight and the Front Sight and when they are perfect, take the shot.*

**\*\*\* Note \*\*\***

The technical term for not having the Back Sight and Front Sight aligned perfectly before taking a shot is called “angular error” but the verbal cue “Back Sight/Front sight” is better for reminding athletes to fire only after they have double checked that the Back Sight and Front Sight are perfect. (Inexperienced athletes will often tend to think it is most important to line up the target with the Front Sight, which is absolutely not the case)

**\*\*\* Even More Important Note \*\*\***

Not having the Back and Front sights lined up perfectly is the most common mistake that learning athletes make in biathlon but it is also the most common mistake that Olympic level athletes make – even after ten years or more of practice.

Athletes cut out the paper circles. The one labeled “target” is taped to a wall one meter from the shooters eye. The second one labeled “front sight” is held in their right hand at arms length and the third one labeled “back sight” is held in their left hand close to their shooting eye (about 5 cm).

**Target**



**Front Sight**



**Back Sight**



Have one of the athletes act as a demonstrator and line up all three circles. Place a meterstick or broomstick along the top of the three circles and have the other athletes imagine the broomstick is the barrel of a rifle. Ask them where the imaginary bullet would go? (Of course, the imaginary bullet would hit the target since all three circles are lined up)

Remove the broomstick. Next, tell the demonstrating athlete to keep their back sight and front sight lined up while the coach takes the tape off the wall and moves the target one centimeter to the right. In this case, the target and the circle made by the front sight are not aligned) Ask one of the other athletes to show where the bullet would go by aligning the broom stick. (The bullet would miss one centimeter left of the center of the target. A small miss.)

Next, have the athlete reset and realign the three circles so the shot would be a hit. This time, have the demonstrating athlete move the back sight only so that it is one centimeter to the right. The target is still in line with the front sight but the back and front sights are not lined up. Where would the bullet go? Use the broomstick to show that when the back sight and front sight are not in perfect alignment the miss will be huge.

As an alternative to cutting out the “paper sights”, real objects can be used for this demonstration. Small washers from the hardware store will work for the rear sight while larger ones work for the front sight. Or, a toonie with the center punched out will do for the front sight (just don't mention this to the queen).

This concept can be shown with elastic band rifles or Nerf guns as an alternative.

As an activity have athletes shoot two precision targets. The first target is on alpha top and **do not** remind athletes to concentrate on perfect back sight/front sight alignment. The second ten shots are on alpha bottom and this time remind them to **focus** on back sight/front sight and then get the target and then double check back sight/front sight on **every shot**.

Close the range and look at the targets. The bottom one is almost always the better of the two. Important lesson learned.

## LESSON 6 – NATURAL ALIGNMENT

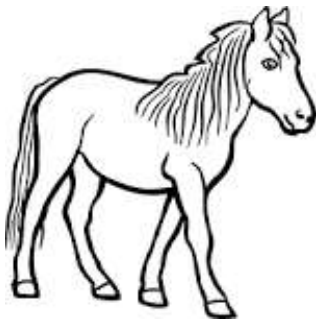
### Athlete Objectives and Activities

Athletes are introduced to the fifth principle of shooting called **Natural Alignment** and complete two activities that show the concept. The first Drill is known as “El Kabong”.

### Suggested Coaching Strategies

Introduce the lesson by asking athletes to explain what will happen and why in the following hypothetical situation.

“A horse is eating some oats out in a farmers pasture about a hundred meters away from the farmer’s barn. A storm brews up and it starts to rain. That quickly changes to lightning and thunder. Then with a mighty mighty clap of thunder and bolt of lightening hits to barn causing the roof of the barn to catch on fire. It is an old wooden structure and it and is soon engulfed in flames. What does the horse do and why?”



The answer is that the horse will try to run back into the barn even though it is on fire because the barn is the horse’s place of safety. The barn is where the horse is **naturally aligned**.

Explain that a fired bullet is similar to the horse wanting to return to the barn. The bullet tends to go where the shooter is naturally aligned.

When a person aiming a rifle releases the tension in their muscles and lets the rifle point to where it wants to point (without holding it using their muscles) that rifle is said to be naturally aligned.

Have the athletes go into position and aim at target Charlie. Next, have them have them totally relax the muscles that they are using to hold the rifle on the target and let the rifle move where it wants to without holding or forcing it in place. The rifle will shift to its natural alignment position.

Next, show athletes how to adjust their natural alignment by **moving their hips** while keeping their left elbow anchored in place as a pivot point.

Moving Hips Forward - Rifle Points Lower

Moving Hips Back - Rifle Points Higher

Moving Hips Right - Rifle Points Left

Moving Hips Left - Rifle Point Right.

**Every time before they begin to shoot, athletes must check their natural align.**

Load the rifle, get into position and quickly line up on target Charlie. (The middle one)

Then, take a breath out, close your eyes and relax the muscles holding the rifle.

Open your eyes. If the rifle is still aimed at Charlie then you are good to move over to Echo and begin shooting.

If not, you must adjust your natural align by moving your hips so the rifle is on Charlie. And you only get one chance to adjust.

**\*\*\* Note \*\*\***

When athletes become primarily concerned (or obsessed) with shooting quickly they often will skip this necessary step resulting in misses. Explain that athletes can learn to check their natural align quickly with practice but be sure to remind them that they are not allowed to skip this step prior to shooting.

**El Kabong Drill**

Divide athletes into groups of five. Get the first group of five behind their mats in lanes 10, 11, 12, 13, 14. Tell them to get into position and do a natural align check with lane 10 aligning on Echo, lane 11 on Delta, lane 12 on Charlie, lane 13 on Bravo and lane 14 on Alpha on their metal targets.

Next, have them all aim at their assigned target except on lane 8. Do a natural align check. They must wriggle their hips pivoting around their elbow so they are aligned. No shooting yet.

Then, have them all switch so they are aligned on target 18. (There will be lots of hips moving) When they are ready and have done their check, count them down. "Three - two - one - fire". If they have aimed well, all five metal targets in lane 18 will go up instantaneously. El Kabong!

For this drill, coaches may want to begin with targets set to standing so the athletes are not concerned about missing targets but rather focusing on adjusting their natural align.



Repeat with the athletes aiming for the targets in lane 7. Do the natural align check. "Three - two - one - fire".

Keep calling out different lanes and repeating this process until five shots are done. Then, bring in the next group of five athletes.

**\*\*\* Note \*\*\***

Explain to athletes that checking their natural align is like free ice cream. If an athlete does a proper natural align check before shooting, shots that are taken that should have been a miss because of poor sight picture or bad follow through or breathing errors become hits. This happens because in the end, the bullet usually tends to want to go where the rifle is naturally aligned – just like the horse into the barn.

Another drill that demonstrates this concept well and shows the need to check natural align is to have a group of about five shooters (often a little more experienced) get into position in lanes 10 -14. They naturally align on their Charlie target on their own lane.

Then, without letting them adjust their hips and check their natural align, have them all shoot five shots at paper target echo top in lane 6. The athletes are forced to "muscle" their rifles onto the target.

Close the range, walk down to the paper and show them what happens. Usually, since the athletes are naturally aligned to the left of the target they were shooting at (they weren't allow to move their hips) the misses and hits will be on the left side of the paper target. The bullets will go where they want to go. Just like the horse.

## LESSON 7 - COMBO SHOOTING

### Athlete Objectives and Activities

Athletes are exposed to the idea of shooting with a heart-rate by adding in physical activity prior to shooting. This is called “**Combination Training**” or more commonly “**COMBO**”.

Athletes learn how to do one-shot-setups.

### Suggested Coaching Strategies

Without first explaining what the lesson is about, begin by having athletes shoot ten shots a one paper target and having them estimate their score. Tell them it is a “Precision Test” and they should take their time – they have five minutes to complete the task and if they are done sooner than five minutes they can do sit-ups until everyone is done.

Next, athletes do a timed run of about one minute in length going as fast as they can. When they return, have them line up behind their mat, explain that they will shoot 10 shots on the lower target and say go. (For beginner shooters, have the rifles on the mats with rests. With more experienced shooters, athletes take their rifles off the racks and put them onto their backs before heading to the shooting mats)

After everyone is finished, athletes estimate their scores, guess which score will be higher and give a reason why. (In most cases, the athletes will score higher on the first group of ten shots compared with the second group because the running causes an increase in heart-rate which usually makes for less accurate shooting)

Close the range and walk down to the targets to see the results. Go through everyone’s targets together pointing how in almost all cases the shooting was less accurate and the groupings were more spread with the high heart-rate. Explain that this is the unique part of biathlon that makes the sport so difficult. On the ski trails or while running, athletes must be like a rabbit going as fast as they can and then to be a good shooter they must be like a rock - steady and still to hit the targets.

Explain the **One-Shot-Setup** drill.

Athletes will get into position and shoot only one shot before getting up and off their mat. The first ten shots will be at the top target with the coach directing the shooting by saying “go” and waiting until all the athletes have taken their shot and are standing behind the mat before saying “go” again. At this stage it is important to make certain athletes are doing their natural align checks, have proper breathing and just prior to the shot, paying attention to back sight/front sight.

Now repeat this with 60 meters of running in between each shot. Athletes use the lower target. Again, the coach can direct the shooting by waiting for everyone to get ready behind their mat after the run before saying “go”.

**\*\*\* Note \*\*\***

For safety reasons make sure athletes open their bolts and unload their clips from their rifles after each shot.

**Combo Shooting** - Switching to combo on metal.

In the opinion of the coach, if athletes have made an effort to maintain solid shooting fundamentals with their one-shot-setups they will be ready to try combo on metal targets.

Have them ski or run between shooting but this time they can shoot five across on metal. Explain that they should do their natural align check on charlie and then shoot from right to left (echo to alpha) and continue to the next target if they miss.

**\*\*\* Note \*\*\***

The main reason to have athletes shoot right to left is that during a race the coach can use a scope to watch their hits and misses on the metal target as they shoot. Later, the coach can give corrections during and advice after the race.

Athletes reset targets and can do the physical exercise at their own pace or as a group. Usually six to eights clips of combo is typical.

**\*\*\* Note \*\*\***

With beginners it is important to stress that as they approach the racks they should start to slow down (or walk) before picking up their rifle and continue trying to control their breathing before shooting. They must also come to a complete standstill and put their rifle onto their back completely rather than just slinging it over one shoulder.



## LESSON 8 - MENTAL VISUALIZATION

### Athlete Objectives and Activities

Athletes learn a basic mental skill - **visual imagery** - and incorporate this skill into their range procedure before they shoot.

### Suggested Coaching Strategies

Before having athletes develop their own imagery it is important from the beginning to have them understand and believe that they can do imagery. (Some athletes claim they are not that great at these mental skills and give up without trying)

To do this, take athletes through a **guided imagery** scenario.

*Close your eyes. Now imagine you are in the car in a parking lot in front of the grocery store. Imagine getting out of the car and walking in the front doors of the store. What do you see? What do you smell? Now imagine you are walking to the produce department. You walk up to the apples, pick one out and hold in your hand. What does the apple look like? How does it feel? Is it heavy? Then imagine you taking a bite. What does it sound like? How does it taste?*

Now explain that this exercise was very similar to some of the mental skills that almost every high level athlete in every sport uses when they compete. If they could taste the apple - they can do mental imagery!

#### **\*\*\* Note \*\*\***

It may also be useful to explain that mental skills become more and more important the farther along you get in any sport. At the highest level of a sport, the differences in such things as physical skill, talent, equipment and amount of training become smaller and **mental skills often become crucial to success.**

Walk with athletes in a group to a specific, permanent landmark (about 50 meters to 100 meters from the range) that the athletes will pass by each time they enter the range. Explain that at this particular spot from now (every single time they shoot) they will have to perform a mental visualization exercise. Tell them to close their eyes and imagine a mental picture of something relating to great shooting. Two examples have been provided to give athletes possible ideas on how they should craft their own personalized imagery.

*You pass your spot and take one relaxation breath in through the nose and one big breath out through the mouth. You imagine that you are an owl, high in a tree and you spot a mouse skittering on the ground that you want to catch. You wait until the right moment to strike. Then you decisively swoop down and seize the mouse with efficiency and confidence.*

Or

*You pass your spot and breathe deeply. You imagine the bullet coming out of your barrel spinning in slow motion as it goes towards the metal target. You have a great slow motion follow through picture. The bullet hits the metal target dead center in the middle making a clanking sound. It continues to drill through the metal after it hits it making a hole. You smell the gunpowder after the shot. Then you imagine a yellow, happy-face emoji with sunglasses – smiling of course.*

The important thing is that each athlete creates their own scenario that is unique to them. (Sort of like the “each Jedi must build their own lightsaber” concept) The scenario can change as the athlete matures but this should be a consistent part of every pre-shooting routine.

**\*\*\* Note \*\*\***

Imagery works best when it involves as many of the five senses as possible (the sound of the targets falling or the smell of the gunpowder after the shot adds effectiveness – bacon imagery also works)



Next have the athletes do a combo style drill (about four clips) where they first ski or run coming in past the designated point on their way to the shooting mat. Stand at the landmark point and ask them to stop and describe their imagery to you before allowing them to shoot. After they get the hang of doing it you don't have to get them to describe it out loud but still ensure they do their imagery.

**\*\*\* Note \*\*\***

Mental skills is a gigantic topic and this practice only scratches the surface. However, it is important for athletes to recognize the importance of these skills early in their development.

## **LESSON 9 - RACE PRACTICE (Race Simulation)**

### **Athlete Objectives and Activities**

Athletes practice for a race, utilizing the skills they have learned. In pairs, they complete a relay format race (Single Mixed Relay) using spare bullets.

### **Suggested Coaching Strategies**

Before beginning, ask athletes to list as many of the different types of biathlon races that are possible. Some of the more common ones are:

Sprint Race - Ski three loops Shoot two times with a penalty loop for each miss.

Individual Race - Ski four (or five) loops and shoot three or four times with a time penalty (usually forty-five seconds for younger athletes or one minute for senior athletes)

(This race usually favours excellent shooters but is often less exciting to watch)

Mass Start - Ski five loops with four bouts of shooting with penalty loops for each miss. (Exciting to watch because usually the races are not decided until the last bout of standing shooting, making for close finishes)

Relay Race - In teams of three or four each athlete completes a “mini sprint” race before tagging their teammate. Penalty loops for misses. Note that each time they shoot, athletes are allowed to use up to three extra bullets to hit all five targets if needed. (Athletes leave the magazine in the rifle and single load each bullet)

#### Single Mixed Relay

Pairs of athletes race using extra bullets if necessary. The run/ski loops are usually quite short. (300 meters works well for a practice) For misses, athletes ski a shortened penalty loop. (40m) Tagging is done after penalty loops are completed. (in other words, each athlete “shoots two times - twice”)

Athlete One: start, ski, shoot prone, ski, shoot, tag

Athlete Two: ski, shoot prone, ski, shoot, tag

Athlete One: ski, shoot prone, ski, shoot, tag

Athlete Two: ski, shoot prone, ski, shoot, ski, finish

This race is fun to watch and is extremely effective at developing shooting/racing skills.

So... divide the athletes into even teams, set up the course, explain the race, get a stop watch out and say go. Enjoy the mayhem and fun. (Make sure to remind athletes to load their spare bullet holders before the race starts)

## **OPTIONAL LESSONS (Still in development)**

Eat Sleep Train Crossword

Range Safety

The Easy And Safe Way To Put On A Race

Awesome Shooting Drills

Making Earrings

666 Drill

A Double Shot of Intensity

Zeroing

Shooting and Scoring Precision

One Shot Set Up Relay

Tendency 25 shots in Wind

Fitting a Rifle The Easy Way

ELMO Athlete Model

Learn How to Shoot Standing in Ten Minutes

Concentration Activities

Rifle Cleaning/Storage

Shooting and Racing In The Cold

The Rule Of Sixes

Eat Sleep Train Crossword

**Optional Lesson 1 – My Coach Said What???** Athletes try and match up biathlon quotes from recognized Biathlon Coaches in Canada.

Possible clues

Attack the black! Makenna Weir

Ten powerful, two letter words - “If is is to be it is up to me” Gregg Campbell

The enemy of great is good. The two cannot exist together Tim Fasiang

Don’t eat yellow snow Doug Sylvester

In Biathlon, champions are made in the summer Petr Zidek

Be the change you want to see in the world Ghandi

Manage yourself Natasha Mostat

Poop before you race Gravy

Look for progress not perfection

Balance is key in life and biathlon

If you are a high performance athlete and you don’t do yoga you’re really not that serious... Gravy

Before a race remember to never drop your sunglasses in the portapotty. Gravy



