

## Dry Firing – Do we Need More Evidence ??

This investigation was initiated in an effort to demonstrate in a realistic way (IE with real live results in race season) that time invested in dry firing can be effective in influencing the biathlon shooting performance in competition.

**Subjects:** There were 11 subjects in total, 6 male and 5 female all of whom were members of the national junior or national youth teams based at the Canmore Training Center.

**Results Compared:** The first set of results or baseline was the Canadian National Championships in Valcartier Quebec. The second set of results used was the tour to German Nationals and European cup number 7 in Arbersee Germany, which occurred in the 2 weeks immediately after Canadian Nationals.

**Intervention:** While on the tour in Germany a team meeting was held and a review of the shooting performances of the Canadian Nationals was made. It was concluded that these were sub par performances both in terms of accuracy and in terms of speed and or rhythm. Mandatory, coach supervised, dry firing sessions were instituted for the first seven days of the tour and during the second seven days the sessions were still mandatory but they were not necessarily coach supervised. Following is the outline of the sessions.

1. There were two (2) dry fire sessions per day
2. #1 AM Session: Mandatory outside exercise of walk/run and stretching  
: 70 Dry fire shots – 35 prone – 35 stand Biathlon shoot format
3. # 2 PM Session: Occurred before Supper each night for 30min.
  - a. Position acquisition work
  - b. Range procedure speed and accuracy of movement training
  - c. General rifle handling skills
  - d. Breathing drills
  - e. Trigger control drills
  - f. Natural Aim drills both prone and standing
  - g. Basic Holding drills
  - h. Biathlon Dry Firing Drills

\*\* These were worked on progressively through out the week – not everything was done every night.

\*\* Note that this was in addition to live firing during training and occurred on race days.

**Results:** Nine (9) of the 11 athletes who participated in these two tours showed an improvement in their race performance accuracy after the mandatory and supervised dry firing was instituted. The largest gain was 22.9% and the smallest gain was .42%. On average the females made a gain of 5.6%(73% CDN to 78.6% Germany) and the males made a gain of 8.3%(64%CDN to 72.5% Germany). As might be expected, there is a general trend indicating that those with the worst initial performances improved more.

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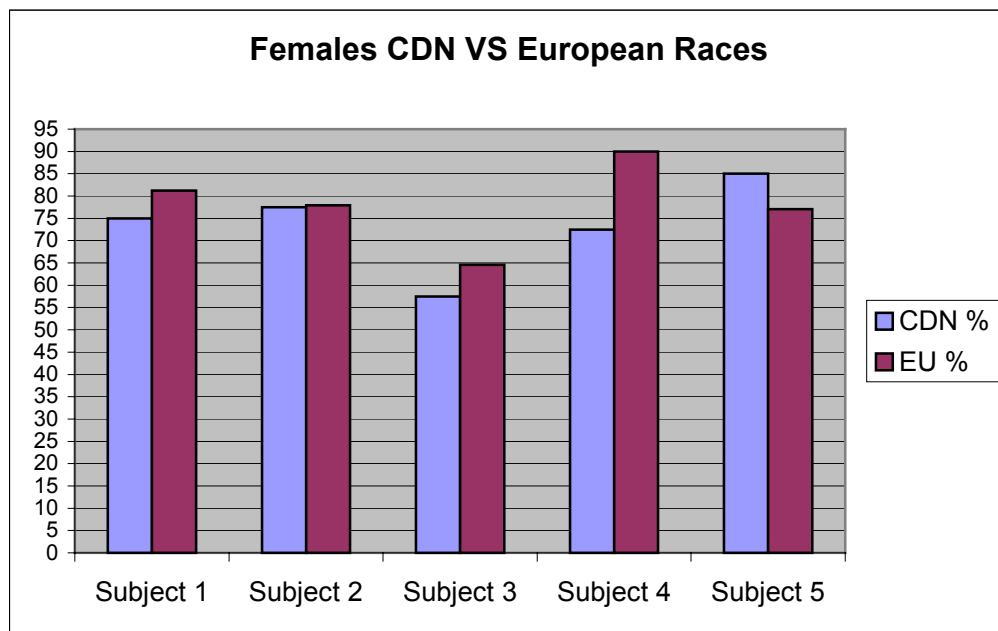
**Discussion:** Dry firing has long been accepted as a valid and necessary training element in biathlon shooting as well as position shooting. This is evidenced from the volume of dry firing recommended in the Biathlon Canada shooting training manual that was developed largely by Michel Dion, who is a position shooter and was the head coach, back in the 1980's. What is often a difficult task is the convincing of athletes that they should engage in this activity and how much time they should devote to this type of training. In this investigation 50min. per day was used to achieve the results quoted here in addition to regular combination training during physical training while preparing for the races. What is not in question based on this investigation is the fact that all but 2 athletes showed an improvement after engaging in high quality dry firing for a relatively short period of 12 – 14 days. It should be noted that this investigation is focusing on the relative **improvements** of the athletes and not making any judgment of the quality of their shooting to start out with.

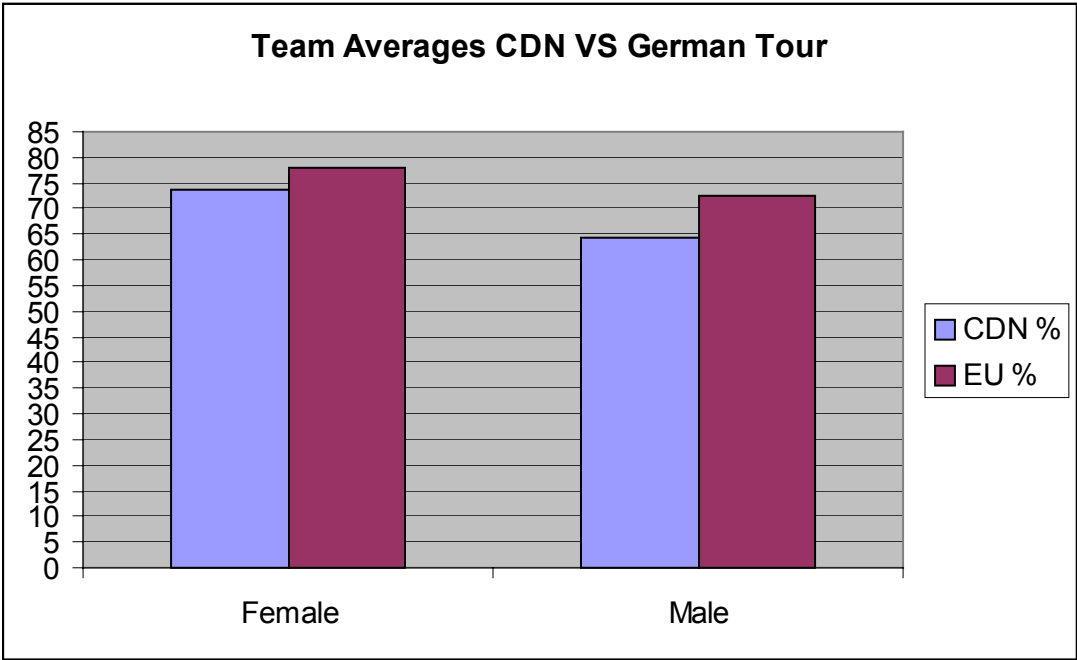
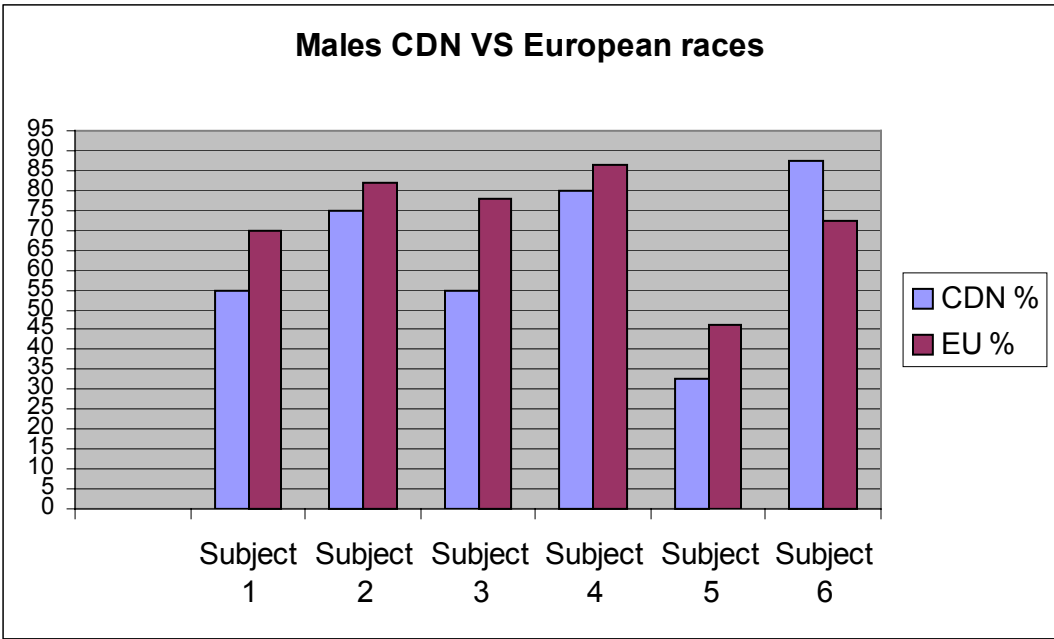
In addition to the measurable accuracy results stated above, it was also observed that the speed and confidence with which the athletes performed the shooting was far superior during the Germany tour than during the Canadian Championships. Several of the athletes commented that they believed this to be due to the dry firing work they were doing.

The intervention as outlined above, was able to produce these results. However it is not the position of this paper that this is the only way to produce improvements to shooting. Rather there are several more important principles at play here.

1. Athletes were spending time with their rifles
2. Athletes were engaging in visualization practice
3. Athletes were engaging in focused dry fire activity with no distraction
4. Athletes had a clear purpose to each exercise
5. Athletes were awake and physically primed for each session

**Conclusion:** It is hoped that everyone reading this paper will take away some information that they can use in their training whether they are coaches or athletes and that everyone will begin to benefit from this form of training.





Geret Coyne: Canmore Training Center Coach