

# Common Problems and Corrective Strategies in Teaching Shooting Postures for Beginners

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**Abstract:** To improve the accuracy of shooting postures among beginners, it is essential to promptly correct common posture issues during shooting posture instruction. Based on this, this paper analyzes prevalent shooting posture problems among beginners, identifying errors such as incorrect shoulder-rest and cheek-rest positions, improper application of force by both hands, mistimed trigger pulls, irregular breathing patterns, psychological interference, and poor control of the rifle's angle. To address these issues, this paper proposes specific corrective strategies, aiming to enable beginners to maintain accurate shooting postures through targeted training and thereby enhance their shooting precision.

**Keywords:** Beginners; Shooting posture; Teaching issues; Correction

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## 1. Introduction

Shooting is a highly technical skill that demands a high level of standardization in the shooter's posture, as the correctness of the posture directly affects shooting accuracy. Especially for beginners, adopting the correct shooting posture not only facilitates rapid entry into the skill but also prevents the formation of incorrect muscle memory due to prolonged inaccurate postures, which can severely hinder the improvement of subsequent shooting skills. Therefore, when conducting shooting posture instruction for beginners, coaches should analyze prevalent shooting posture issues among beginners and, based on this analysis, explore effective strategies to correct their erroneous shooting postures. They should scientifically design targeted shooting training to enhance the effectiveness of shooting posture instruction while helping beginners more solidly master shooting skills<sup>[1]</sup>. This paper analyzes common problems in beginners' shooting postures and proposes specific corrective teaching strategies aimed at improving beginners' shooting proficiency.

## **2. Common problems in beginners' shooting postures**

### **2.1. Shoulder-rest and cheek-rest**

The accuracy of shoulder-rest and cheek-rest positions during rifle shooting is closely related to shooting precision. However, some beginners often encounter issues with shouldering and cheek-resting during rifle shooting (such as having the shoulder rest position too low or too high). Both a shoulder rest position that is too low or too high can cause bullets to deviate from the bullseye. Additionally, improper cheek-resting pressure can also affect shooting accuracy. If the pressure is too great, it may cause the head's position against the firearm to change, resulting in a shift of the aiming line and causing bullets to deviate to the left and high of the bullseye. On the surface, these errors may seem minor, but they can significantly impact shooting performance <sup>[2]</sup>.

### **2.2. Pistol force application**

During pistol shooting training, beginners are prone to experiencing an imbalance in grip strength. Some beginners, in an attempt to prevent the firearm from shaking, grip it too tightly, causing stiffness in the wrist and tension in the arm muscles, which severely affects the stability of the grip and can lead to frequent swaying of the firearm's muzzle. Each shooting posture differs, causing bullets to scatter and making it difficult to form a concentrated shooting area. On the other hand, some beginners grip the firearm with insufficient strength, resulting in noticeable shaking of the firearm after raising it, making it difficult to aim steadily. Moreover, when pulling the trigger, they may easily experience "trigger dragging" due to insufficient strength, exacerbating the firearm's shaking and significantly reducing shooting accuracy.

### **2.3. Incorrect timing of trigger pull**

Mastering the timing of the trigger pull is also a crucial aspect of shooting posture instruction, but some beginners often struggle to accurately grasp the right moment. Some beginners, in an attempt to precisely capture the aiming point, often force a trigger pull at an inappropriate time or jerk the trigger. At this moment, the aiming line often has not yet steadily pointed at the aiming point, making it difficult for the bullet to reach the intended location <sup>[3]</sup>. Jerking the trigger is a major mistake in shooting, as it causes the firearm to shake significantly instantaneously, further destabilizing the already unstable aiming line and inevitably causing the bullet to deviate from the bullseye.

### **2.4. Disrupted breathing rhythm**

In shooting posture instruction, many beginners struggle with improper control of their breathing rhythm. When shooting, they stop breathing too early, and under the influence of prolonged breath-holding, their muscles involuntarily tremble. This severely affects the stability of holding the gun, making it impossible to maintain the correct posture for aiming. It may even lead to jerking the trigger involuntarily due to muscle tremors, causing the bullet to deviate from the target center.

### **2.5. Psychological interference**

Psychological factors significantly interfere with shooting accuracy for beginners. Many beginners, when shooting, may become overly concerned about shooting accuracy, trigger timing, etc., leading them to make incorrect movements (such as frequent blinking, shrugging, etc.). This results in incorrect shooting postures, loss of gun stability, and consequently, reduced shooting accuracy. For example, a beginner during shooting training, due to excessive concern about their shooting performance, blinked and shrugged involuntarily when

pulling the trigger, causing the bullet to deviate from the target center<sup>[4]</sup>.

## **2.6. Incorrect gun plane angle**

The accuracy of the gun plane angle in shooting directly affects shooting precision. However, beginners often tilt the gun plane to the left or right when shooting, reducing the angle of fire and causing the axis of the gun barrel to deviate from its intended direction. This results in the actual point of impact being to the left or lower right of the expected position. To improve the shooting accuracy of beginners, sufficient attention must be paid to correcting this issue in shooting posture instruction.

## **3. Corrective strategies in shooting posture instruction for beginners**

### **3.1. Correcting the shoulder-to-cheek posture**

When instructing beginners on rifle shooting postures, coaches need to emphasize correcting incorrect shoulder-to-cheek postures. Firstly, guide beginners to align the center of the rifle's buttplate with the "triangular area" formed by the shoulder joint and clavicle connection. The area where the buttplate contacts the body should be larger than the size of a palm. Secondly, gently push the body of the rifle with both hands. If the recoil is primarily transmitted to the junction of the shoulder and chest without causing significant localized tenderness, it indicates that the posture is correct. If there is a stinging sensation in the shoulder or if the clavicle is compressed, adjustments of 1 to 2 centimeters upward or downward should be made. Finally, the coach should fully leverage their role as a supervisor, standing beside the beginner to observe whether the axis of the body's spine and the rifle's buttstock maintains a 30° to 45° angle, or whether the arm, when fully extended, aligns with the axis of the buttstock, preventing the buttstock from "buckling inward" or "tilting outward." When correcting the cheek weld posture, instruct the beginner to follow the basic principle of "gentle leaning and light contact", naturally lowering the head so that the cheek gently touches the cheek rest of the buttstock. The pressure of contact should be such that "the cheek rest can be felt, but there is no sense of compression"<sup>[5]</sup>. During instruction, the coach can organize beginners to conduct closed-eye rifle-raising drills. After the cheek is in contact with the rifle's buttstock cheek rest, the beginner should open their eyes to observe the sight line. If the deviation of the sight line is within 2 millimeters, it indicates a stable cheek weld. If there is a significant deviation, the coach can guide the beginner to attach anti-slip tape to the cheek rest to assist in securing the head.

### **3.2. Correction of handgun firing posture**

When teaching firing postures, coaches should emphasize single-handed straight-arm gun-holding drills, instructing beginners to fully press the palm of their right hand against the pistol grip, with fingers naturally wrapped around it and the index finger lightly resting on the trigger. The grip strength should be such that the gun can be held steadily without significant wrist trembling, and the finger pressure should be evenly distributed. At the same time, instruct the beginner to effectively control the direction of force, exerting force backward along the axis of the barrel, keeping the wrist and arm in a straight line, and concentrating the force at the junction of the wrist and palm. The wrist should not be turned outward or inward. During the beginner's training, the coach should supervise closely and promptly correct any wrist deviations.

Additionally, in teaching, the coach should also organize beginners to strengthen muscle balance training, utilizing methods such as "gun-holding relaxation cycle drills" to enhance the beginner's ability to control their

muscles. Instruct beginners to hold the gun steady for 30 seconds after raising it and then put it down, followed by fist-clenching and stretching exercises to relax the shoulder and forearm muscles. Then, have them raise the gun again while guiding them to appropriately reduce the grip strength on the gun and gradually find the balance point between gun stability and muscle relaxation. Additionally, coaches can organize beginners to engage in light-weight resistance training by hanging a relatively lightweight sandbag at the front end of the gun barrel to enhance the beginners' arm and wrist control as well as muscle endurance <sup>[7]</sup>.

### **3.3. Precisely grasping the trigger-pulling timing**

In teaching beginners shooting postures, coaches need to explain to them that it is normal for the gun barrel to experience slight shaking due to interference from heartbeats and breathing when raising the gun. The purpose of raising-the-gun training is not to eliminate this shaking but to aim according to the trajectory of the gun barrel's shaking and precisely grasp the trigger-pulling timing. When organizing beginners for training, coaches can use video recording equipment to capture the trajectory of the muzzle's shaking when the beginners raise the gun, helping them understand and remember the shaking pattern of their own gun barrels during the process, thus providing a reliable basis for controlling the trigger-pulling timing. Subsequently, coaches can organize beginners to conduct staged trigger-pulling training. In the first stage, guide beginners to use a fixed gun mount to stabilize the gun barrel and then conduct "aiming, pre-pressing the trigger, and pulling the trigger" exercises, allowing them to feel the trigger travel. In the second stage, instruct beginners to raise the gun, aim when the shaking trajectory is within an effective range, and slowly pull the trigger to fire. In the third stage, coaches can use the "1-2-3-pull" command to assist beginners in conducting 3-second aiming and 1-second trigger-pulling training, helping them gradually develop muscle memory for grasping the trigger-pulling timing. For beginners who make mistakes in actually grasping the trigger-pulling timing, coaches need to strengthen corrective training. For example, for beginners who "wait too long", coaches can use a stopwatch to time them, requiring them to complete the trigger-pulling within 5 seconds after raising the gun to prevent muscle fatigue from affecting the hit rate. For beginners who "pull the trigger hastily", coaches can stick red dots next to the aiming point to remind them to slowly pull the trigger only after aiming, appropriately extending the preparation time for pulling the trigger <sup>[8]</sup>.

### **3.4. Accurately control breathing rhythm**

When correcting the posture issues of beginners in shooting stance instruction, coaches need to facilitate accurate control of breathing rhythm through breathing training <sup>[9]</sup>. During training, before beginners raise their guns, they should be guided to breathe naturally, avoiding breath-holding or deep breathing, to keep the body relaxed. When aiming with the gun raised, beginners should be instructed to expand their chest while inhaling, which may cause the sight line to move slightly upward, and contract their chest while exhaling, which may cause the sight line to move slightly downward. Through repeated training, beginners can be encouraged to accurately control their breathing rhythm and be guided to fire when exhalation is nearly complete but before inhalation begins, as the body is relatively stable at this moment, making it an ideal time for firing. Additionally, beginners should be instructed to maintain their stance for 1 to 2 seconds after firing before breathing again, preventing body sway due to premature breathing and thereby affecting subsequent precise shooting. Furthermore, coaches should organize breathing adjustment training for beginners in different scenarios. For example, in close-range shooting breathing rhythm control training, beginners should be guided to appropriately



shorten their breath-holding time by 1 to 2 seconds, without overdoing it to avoid tension caused by breath-holding. In medium- to long-range shooting training, beginners should be instructed to appropriately extend their exhalation time before breath-holding (typically 3 to 4 seconds) to stabilize the chest.

### **3.5. Overcome distractions**

In shooting stance instruction for beginners, addressing “superfluous” movements caused by psychological factors, coaches need to correct the beginners’ mindset and guide them to overcome distractions, focusing their attention on aligning the front sight and rear sight before firing, rather than thinking about “whether they can hit the 10-ring” or “whether the gunshot will be loud” <sup>[10]</sup>. During instruction, coaches can organize beginners to conduct “blind aiming training”, where they raise their guns with their eyes closed and then open them to check if the front sight is aligned with the rear sight. If not, immediate adjustments should be made. Through repeated training, beginners can develop an “aiming priority” mindset. Meanwhile, coaches should also organize desensitization training for beginners to eliminate unnecessary movements. For beginners who exhibit “shoulder shrugging”, during rifle-raising drills, a pencil can be placed on their shoulders. When they shrug, the pencil will fall, serving as a prompt to correct their rifle-raising posture. For beginners with the unnecessary movement of “blinking”, during training, they can be required to wear goggles with a piece of transparent tape affixed to the inside. When they blink, they will touch the tape, thereby correcting the issue of frequent blinking. Additionally, when coaches are instructing beginners on shooting postures, they should guide beginners not to blindly pursue hitting the 10-ring target at the beginning. Instead, they should set the goal as “achieving standard shooting movements without unnecessary actions and having bullet impacts concentrated in the 8-ring area.” By achieving these smaller goals, beginners can build confidence in their learning.

### **3.6. Pay attention to the rifle’s plane angle**

In shooting posture instruction, coaches need to guide beginners to check the levelness of the rifle’s plane in real time. For rifles, beginners can be instructed to use the crosshair of the sight for inspection. If the horizontal line of the target paper is parallel to the horizontal line of the crosshair and the vertical line of the target paper is parallel to the vertical line of the crosshair, it indicates that the rifle’s plane is level. If there is a tilt, adjustments need to be made to the grip angle of the right hand or the height of the left hand’s support. For handguns, beginners can be instructed to check by observing the relationship between the arm and the axis of the barrel. If the two are aligned in the same direction and the side of the gun is perpendicular to the ground, it indicates that the rifle’s plane is level. Alternatively, beginners can be instructed to affix a vertical sticker to the side of the gun and judge the levelness of the rifle’s plane by observing the relationship between the sticker and the vertical line of the target paper.

When instructing beginners on standing shooting, guide them to keep their feet apart at a width equal to their shoulders and maintain their body’s center of gravity in the middle. If the center of gravity shifts, it may cause the rifle’s plane to tilt. When instructing on prone shooting, guide beginners to keep their abdomen in contact with the ground, with their feet apart at a width equal to their shoulders, and their toes pressing against the ground. The grip height of the right hand should be consistent with the support height of the left hand, without one being higher or lower than the other.

During teaching, instructors can use a “level calibrator” for gun-raising exercises, guiding beginners to adjust the angle of the gun’s surface based on the actual display of the level. They can also organize “target-

adhesion” training for beginners, where an A4 paper is attached to the side of the target paper. When raising the gun, the side of the gun’s body needs to be close to the A4 paper. If the two are completely aligned, it indicates that the gun’s surface is level; if there is a gap between them, adjustments to the gun-raising posture need to be made promptly until they are perfectly aligned.

## 4. Conclusion

In summary, when teaching beginners shooting postures, instructors must recognize the impact of factors such as shoulder-to-cheek contact, hand force application, trigger timing, breathing rhythm, psychological state, and gun surface angle on the standardization of shooting postures and shooting accuracy. Based on the characteristics of beginners, they should design teaching strategies for correcting shooting postures from dimensions such as standardizing shooting movements, forming correct muscle memory, and psychological adjustment. By utilizing phased training, auxiliary tools, and scientific guidance, they can gradually correct the incorrect shooting postures of beginners. At the same time, they should pay attention to the interference of psychological factors on beginners’ shooting and use positive reinforcement and specialized training to help them build learning confidence. Additionally, instructors need to continuously optimize their teaching methods to enable beginners to accurately grasp the essentials of shooting postures, thereby laying a solid foundation for their subsequent improvement in shooting skills.

## Disclosure statement

The author declares no conflict of interest.

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