

Coaching Column

The shooting posture explained

Vladimir Galiabovitch and Mark McKean Dip.T(HPE/Sc), CSCS, Level 2 ASCA, MAAESS

In the past you may have read articles about the correct shooting posture and how best to maintain it during shooting. In reviewing this information, we would like to remind you of some points regarding this posture and explain them in some detail.

What does it mean to keep your body steady?

To achieve the very best shot you need to have as few movements as possible of your gun, arm, and body, prior to and during the execution of the shot. In order to achieve the fewest movements possible you need to be able to achieve a stance that 'locks' your body down and allows it to settle into a position that is stable and steady and requires the least amount of effort to maintain. Once this posture is achieved, you are less likely to make movements that will influence the shot. The best shot will follow by applying the correct pressure on the grip and keeping this pressure consistent and keeping the triggering action controlled.

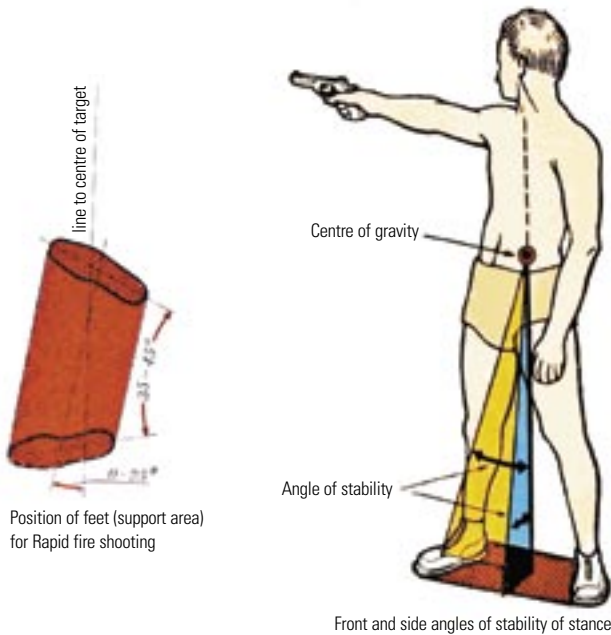


Figure 1

Figure 2

This stable stance encompasses a combination of the width of your feet, the position of your centre of gravity, the arm lifting action, position of the arm, and the amount of energy required to maintain this position.

With your stance it is possible to make your supporting area wider or narrower by changing the width and angle of your feet.

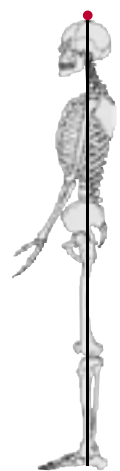
Width is achieved by placing your feet further apart and the angle is increased if the toes point further to the side rather than straight ahead. By increasing the width of your stance, your base of support or the area between your feet, increases (See Figure 1. The coloured area represents your base of support).

This also results in getting your body's center of gravity closer to the ground. With a wider stance and lower centre of gravity the end result is a more stable stance. The further apart your feet are, your front angle (blue) and side angle (yellow) of stance height decreases and the size of the area of the base increases (See Figure 2). This lowering of height and widening of the platform creates the stability all shooters seek. With a wider base of support, it is more difficult to become unstable by the center of gravity moving outside of your supporting area. This ensures you remain more stable whilst shooting.

Efficiency is another issue that needs to be considered when deciding on the width of your stance. By setting a width of stance that is too wide, you may find that:

- ▶ you stress your leg muscles much more than is required
- ▶ you would not be able to maintain control for extended periods of time and,
- ▶ You may need to hold your shoulder (when aiming) higher than if you used a narrower stance. Try this for yourself.

The true anatomical position (Figure 3) is one in which the center of gravity of the head, shoulders, arms, hips, knees, ankles, and body are situated on one vertical line. This is not however the most efficient position in which to shoot for long periods. By allowing the hips to move forward slightly, the hip ligaments and joint structures provide most of the support for the body. The hips, if moved 10 degrees into this extended or forward position, are supported by the tension in these soft tissue structures with less effort required by the surrounding muscles to hold this position. In order to keep the centre of gravity inside the base



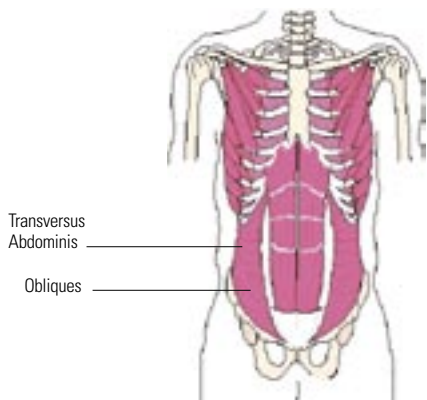
of support, the upper body needs to lean slightly backwards. This brings the weight back into the mid foot and this vertical alignment is more efficient for shooting over longer periods of time than the true anatomical position shown here. Similarly as the arm is raised the body tends to lean slightly away from this lift, again to bring the centre of gravity back to the middle of the base of support.

After positioning your body in the desired shooting direction, the next phase is to lift your arm. Research shows that prior to the arm lifting, the abdominal and trunk muscles establish a stabilising effect creating a solid structure that allows the arm to be lifted in a controlled and efficient manner.

The core muscles, namely the Transversus Abdominis, Multifidus, and Obliques achieve this. The remainder of the body is also steadied by other muscles that create a balanced tension to hold the body in its desired position. These muscles are deep in the hip and the thighs. The tension

established by the trunk muscles is low but just enough to create stability and still allow a normal breathing pattern. These muscles must be able to sustain this light contraction almost sub consciously all day and not just during the execution of the shot. Before the arm is lifted the shoulder blade also requires stabilising from the muscles that attach from the shoulder blade or scapula to the spine and rib cage. These muscles hold the shoulder blade still, allowing the movement based muscles to create the steady controlled lift of the arm. These muscles often fail to have the strength required to keep the shoulder blade still during the arm lifting phase.

The first phase of this arm lift is performed by the Supraspinatus, which crosses from the top of the arm to the top of the shoulder blade and is completed by the Deltoid group which covers the shoulder cap. Although these muscles perform the movement of the lift, the real strength that is required is in both the stabilisers of the shoulder blade and these muscles that create the lift. To perform this movement repeatedly during training or competition, these muscles must have a controlled level of strength in both muscle groups. This strength can only be achieved by regularly exercising these muscles outside of the shooting action so that they will function effectively during the shooting action.



Ideally you want the position of the lifted arm to be centralised in the shoulder joint angle so that the muscles enveloping the shoulder joint will have symmetrical tension from both sides.

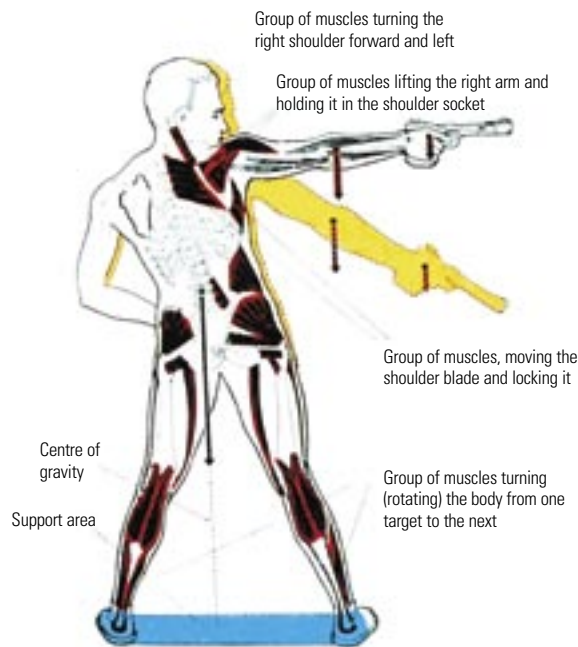
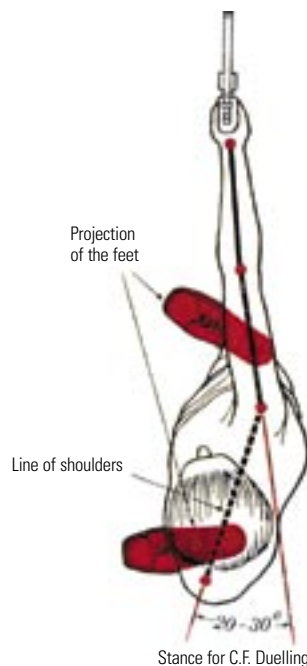
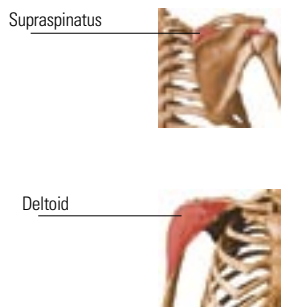


Diagram of Rapid fire stance



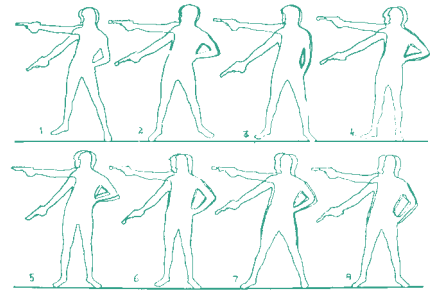
Position of the arm relative to the line of shoulders, at which the backing factor presents the least resistant lifting of the arm

This position can be seen in the following image where the angle of the arm to the shoulder is between 20–30 degrees of the side trunk alignment. The arm position is very important and is influenced by your body's build and the position of both your head and feet. It may require adjustment of your stance angle to allow your arm to settle into this position in relation to your body.



After the arm is raised you will need to position your head in as straight a position as possible. In the beginning it may be difficult to maintain this head position but with practice it will gradually become more comfortable. Each person shooting will adjust his/her body in slightly different ways. The aim is to achieve a position in which all of these factors have been catered for. Precision and turning target shots are different because of an extra movement. You need to lift the arm and keep your posture steady. The movement requires that you involve, in action only, the shoulder muscles that lift the arm.

In the diagram below you can see how different shooters have adjusted their body and head position during the arm raising and shooting stance.



This way is perhaps a more advanced way to choose a shooting position than you may have already established. In this posture, muscles will support your body with minimum amounts of effort and you will be able to control your shooting posture and be able to adjust it much easier. Achieving this posture takes practice and time. Be prepared to spend time adjusting your posture and dry firing many times until it feels comfortable and efficient. If possible spending time with a coach who can assist in the development of your stance would also provide feedback and you will progress more quickly to adapt this posture.

Each shooter is an individual and your posture for shooting may differ to others. As long as you have developed a posture that is based on these principles, you will achieve a shooting posture that allows you to perform to your very best. 🌟