WHITETAIL ANATOMY AND SHOT PLACEMENT GUIDE

Article Courtesy of the International Bowhunter Education Program

The Advanced Whitetail Anatomy & Shot Placement Guide

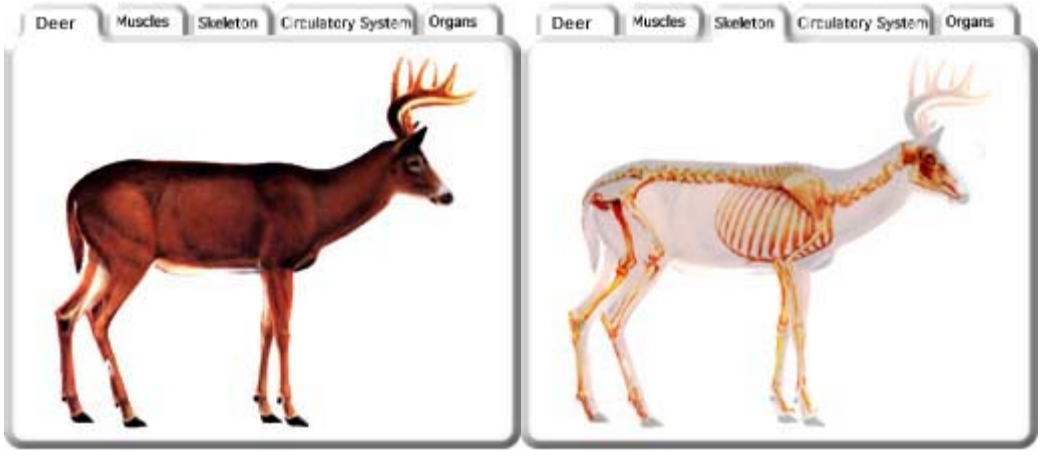
Firearm hunters and bowhunters have a responsibility to make quick kills and recover all game. One complaint that members of the public who do not hunt have about hunters is "slow deaths, wounded and unrecovered animals." Accurate shot placement is the key to a quick kill and game recovery. Necessary ingredients of good shot placement are knowledge of how a hunting arm harvests game, shooting only within one's ability, and knowing the game animal's internal anatomy. The future of hunting and a hunter's self-respect depend on his ability to efficiently harvest game.

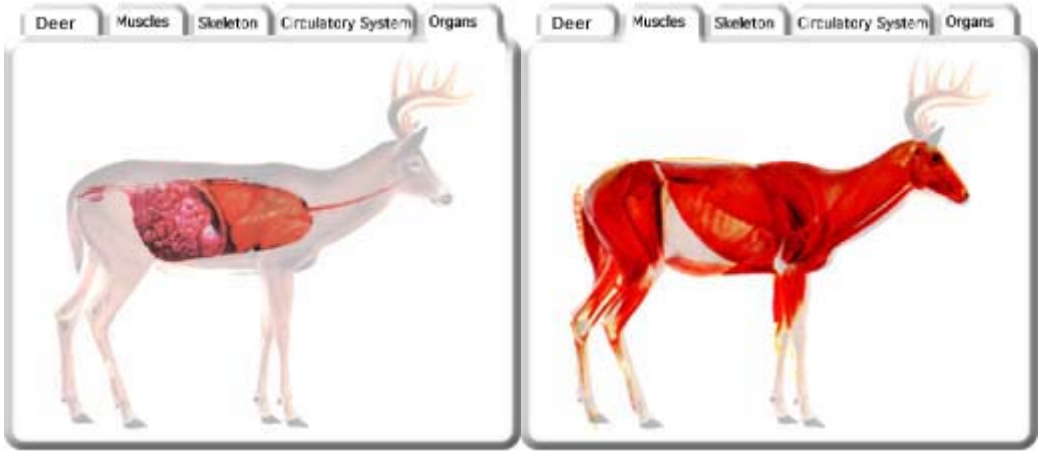
How an Arrow Works

Arrows tipped with razor sharp broadheads are designed to cut. Arrows harvest game by cutting arteries and veins resulting in blood loss. In addition to severe bleeding, arrows shot through both lungs cause the lungs to collapse, causing rapid death through suffocation. Arrows can cut through softer bones like ribs, but arrows shot from even a very heavy bow will rarely penetrate heavy bones found in the shoulder, hips, head and neck. Thus, both razor sham broadheads and careful shot placement are crucial to game recovery.

How a Bullet Works

Bullets harvest game by massive shock and tissue destruction. Bullets have more energy than arrows, and if fired from firearms adequate for the game being hunted, can smash even heavy bone and enter the vital organs.





Internal Anatomy of Common Game Animals

The internal anatomy of other hooved big game animals (e.g. elk, moose, caribou, sheep, pronghorn and goat) are very similar to the deer except in size. A spot in the center of the lungs or slightly lower should be a bowhunter's target every time. An arrow in the lungs will bring down the largest game, and the advantage of this shot is that the lungs are relatively large and surrounded by other vital organs: the heart is below, the spine Internal Anatomy White-Tailed Deer and aorta (a major artery) are above, and the liver and the spleen are behind. Hunters using firearms have many more choices than bowhunters. A bullet striking either the heart, shoulder, head, spine or lungs is fatal to big game animals due to the massive shock and tissue destruction involved. Once again, the chest area offers the best lethal target.

Where to Aim - Broadside

Bow: Broadside game represents the best bow shot because it requires the least amount of penetration to reach the vital organs, which is especially important in large big game animals. The broadside shot is also the best single angle for accomplishing a double-lung hit, resulting in the collapse of both lungs. Find the best aiming point on a deer or other hooved big game by picking a spot halfway up the side of the animal and about a hand's width behind the hollow of the shoulder. Or, in your mind's eye, eliminate the head, neck and tail. Then, divide the animal equally both vertically and horizontally. Hold on the spot where these imaginary lines cross, then aim about six inches forward. This is called the "cross hairs" method of picking a spot. Both methods will help you put an arrow in the center of the vital area by enabling you to pick a spot rather than shooting at the whole animal. Remember, an arrow will penetrate the ribs, but be careful to avoid the shoulder bone. Wait until the near leg is forward and concentrate on a spot behind the shoulder. Avoid head and neck shots when bowhunting. The brain and spine are small targets protected by heavy bone. The only artery of any size in the neck is the carotid artery (which in a deer is only the size of your bowstring). Wait for the chest shot behind the shoulder!

Gun: The broadside position offers several excellent shots for a firearm hunter. The best target is the shoulder and chest area. A bullet of the correct weight and

fired from a firearm adequate for the game being hunted will break the shoulder and enter the lungs or heart. A head or neck shot will drop an animal instantly with no meat damage, but should only be used if you are proficient enough with your firearm.

Where to Aim - Quartering Toward

Bow: This is one of the poorest bow shots and should not be taken. Picking a spot behind the shoulder will result in the arrow barely missing the vital organs and angling back into the stomach and intestines. Heavy shoulder bones shield the majority of the vital organs from penetration by arrow. An error of only on inch or two will result in a miss or a non-fatal hit in the shoulder. Another disadvantage of this angle is the possibility that the animal will sec the hunter drawing his bow. Wait for the animal to pass by and take a broadside or quartering-away shot.

Gun: The quartering-toward angle is fine for a firearm. Aim at the head, neck or front of the shoulder for an effective hit. A light bullet may deflect off the shoulder bones of large big game such as elk, moose or large bears. Be certain you use a firearm and ammunition adequate for the game you hunt and type of shot you select.

Where to Aim - Head-On Shots

Bow: This is a very poor shot for the bow. The vital area is the chest between the shoulders, which is an extremely small target. The animal must have its head up to expose this small target area, and it will almost surely see the archer draw his bow. An alert animal is capable of "jumping the string" of even the fastest bows and avoiding the passing arrow. Do not take this shot.

Gun: This is a good shot with an adequate firearm. The head, neck and center of the chest are vital areas that the hunter can use as aiming points.

Where to Aim - Rear-end Shots

Bow: This is a shot all responsible bow hunters will pass up. The only major target in the rear quarters is the femoral artery, which is smaller than your little finger and extremely well protected by heavy leg and hip bones. Also, the hindquarters have very heavy muscle tissue which, together with the heavy bone structure and viscera, make it a long, questionable journey for an arrow to get up front to the vital organs of even a small deer.

Gun: The rear-end shot is a poor shot with a firearm. A shot to the body at this angle will probably not bring the animal down quickly and could ruin the best cuts of meat. A head or neck shot is possible if the animal has its head up. Wait for a better shot opportunity.

Where to Aim - Elevated Stands

Elevated stands, particularly tree stands, are commonly used by both firearms hunters and bowhunters. The change in the shot angle makes little difference to a hunter using firearms, but results in a smaller portion of the vital area being exposed to a bowhunter. Position of bones in relation to the vital organs changes more and more as you climb higher. The back bone and shoulder blade shield more and more of the chest cavity as the angle gets steeper. This causes the vital area to become narrower. To avoid the shoulder blade on a broadside animal when shooting from an elevated stand, aim farther behind the shoulder than you would from the ground. Many experienced bowhunters suggest that you wait for the animal to travel a few more feet and take a quartering-away shot. Complete penetration will result in a good blood trail, so avoid bones that could prevent the arrow from exiting low in the animal. Elevated stands also make it more difficult to make a double-lung hit. Consider the angle of the shot when deciding how high your stand should be. (See NBEF Tree Stand Guide.) Bowhunters should be sure to practice from elevated stands before hunting. Shooting down at narrower targets is very different than shooting horizontally at targets on the ground. Always wear a safety belt when practicing and hunting from elevated stands so that you can concentrate on making a good shot without fear of falling.