

# Able Scouts

Articles on Scouting with special needs and disabilities

## BB-4: Low Velocity

### **MODULE BB-4 – CAMP PROGRAM FOR SCOUTS WITH SPECIAL NEEDS AND DISABILITIES – SHOOTING SPORTS – LOW VELOCITY – ARCHERY, TOMAHAWK, SLINGSHOT**

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## OVERVIEW

This module is for Range Officers responsible for shooting activities such as archery, sporting arrows, slingshot shooting, tomahawk throwing, and knife throwing. Shooting sports with gas and spring propelled projectiles; including BB gun, chalk ball, airsoft (plastic BB), rifle, black powder, shotgun, and pistol are addressed in Module BB-3 (<https://ablescouts.org/toolbox/bb-3/>.) The goal is to provide a concise guide that focuses on the including various types of disabilities in shooting sport programming. This module focuses on things that are within the control of the range staff rather than permanent improvements to the facilities.

Ranges for low velocity sports are typically placed on lightly improved land and don't typically have paved surfaces for access. Such ranges are also likely to be set up on a temporary basis and may be incorporated at public events where spectators may gather. Both factors mean that thought needs to be given about how to give participants with mobility impairments access to the range.

Low velocity sports have two inherent advantages over gun ranges. The first is that these sports are quieter, so hearing protection is not required and it is easier to use verbal communication. The second is that it is easy to see when the projectile has been drawn far enough back to become a hazard, unlike a gun where we assume it is loaded at all times and we can't watch the trigger closely. The disadvantage of low velocity sports is that it takes more physical strength and coordination to launch the projectile than with a gun.

In this module, the **range officer** is the person in charge of a particular shooting range while it is open and active. Additional staff members at a shooting range are called **range aides**. Range aides are under the supervision of the range officer. Participants may be used to using the term "Rangemaster" for one or the other of these roles, but avoid confusion in this module that title is not used. Range aides have shooting skills and might teach in the shooting activity. Later, we will introduce the term "**assistant**".

An assistant is a person who supports a person with a disability on an individual basis, but has no special shooting knowledge or skill. There may be times when a range aide serves as an assistant for a person with a disability, but a typical assistant would not be qualified as a range aide.

Every willing Scout should have the opportunity to learn to shoot safely, have fun, and enjoy the sense of accomplishment that comes from making contact with the target. BSA shooting sports are subject to age restrictions that correspond to the BSA program levels. However, the underlying reasoning is not spelled out, and all **range officers need to pay attention and help Scouts that are having difficulty even though they meet the age requirements for the activity.**

Low velocity target sports are offered to younger Scouts than gun shooting is. (*In this module the term “Scout” applies to a participant in any of the BSA program levels. Where a distinction needs to be made between program levels, “Scouts BSA” is used.*) This actually makes it easier to adapt to Scouts with special needs and disabilities than in other program areas because many of the accommodations we need for disabilities are the same ones we need for young Scouts. **In most other cases, the special needs of an individual Scout can be accommodated safely with additional personal support and supervision.** Some Cub Scout age participants also may need extra support and consideration even though they are not disabled and do not have an identified special need.

You will encounter some Scouts whose disabilities are obvious, like physical disabilities, blind, deaf, or Down syndrome. Physical disabilities include people who need mobility equipment like wheelchairs and crutches, but also include people that have limited strength, endurance, or coordination. For every obvious disability you encounter, there will be several Scouts with less obvious special needs like learning disabilities, ADHD, autism, history of seizures, or anxiety disorders. Camp is exciting and challenging and over the course of a multi-day camp session, Scouts with disabilities may tire out or act out more as time goes on. Some Scouts with milder special needs may start camp without needing accommodations but begin to need them later on.

## THE TWO KINDS OF SCOUTS WITH DISABILITIES

There are a lot of different types of special needs and disabilities. Any one person could have a combination of needs, and people can have different levels of disability from the same condition. So, every individual is different. However, for the purposes of running a target sport program we can boil this down to two different groups, with a little bit of overlap. **The dividing line is the maturity/intellectual ability of the Scout.** In the first group are Scouts that have a need, but they can understand range commands and operations and obey the safety rules. Their needs have to do with the mechanics of shooting. Most Scouts in this group will arrive at the range with someone to assist them and their needs fall into the general category of adaptive sports, with equipment modifications. We will get into adaptations later.

In the second group are Scouts who could have erratic behavior once they are on the range. There are a variety of disabilities that could result in erratic behavior, but the point is not to exclude them from the range but to find a way to prevent unsafe actions. Some of these Scouts will arrive at the range with someone to assist them and you can work with the assistant. The more challenging situation is when such a Scout arrives at the range with only an ordinary “buddy Scout” and no one identifies the Scout to the range staff as having a need before the Scout gets on the range. We will discuss how to manage this

group of Scouts in more detail later.

## ASSISTANTS FOR SCOUTS WITH SPECIAL NEEDS

Additional personal support and supervision at the range solves nearly all problems. In practical terms this means a person to provide one-on-one support for the Scout. A range aide can serve as the support person, but this makes the most sense for a Scout that only needs personal help at the range and nowhere else at camp. Some Scouts with special needs or disabilities that come to the range will have an assistant with them. An assistant can come in many forms. It could be a responsible mature Scout (peer buddy), parent/guardian, adult leader from the Scout's unit, professional caregiver, chaplain, etc. An important thing to recognize is that **the Scout and the assistant form a team**, and they need to be thought of as one unit at the range. The assistant is not a spectator or an extraneous person that needs to be kept away from the firing line. The assistant knows more about the Scout's abilities and limits than the range officer does, and knows how to best help the Scout. In many instances, the assistant will be doing things like retrieving arrows and tomahawks from down range. The other important thing to recognize is that **the range officer and the assistant also form a team** to assure the shooting experience is both safe and enjoyable. This second team will need some time to coordinate their efforts before shooting starts.

## CAMP ORIENTATION STRATEGIES

While all Scouts arriving at camp get seen by the camp medical department and for swim check, traditionally the range officers don't get to know a Scout until the Scout turns up at the range for a class or for an open shooting time. This is manageable if you have enough staff at the range to operate the range without the rangemaster, to free up the rangemaster to work out the details with the Scout with special needs and his or her assistant.

A better solution is to build a time into the schedule, either on camp arrival day or the first morning of camp, to meet with any leaders, parents, guardians, or caregivers that brought a Scout with special needs to camp or have an unusual concern. (This is actually a good idea for every camp program area.) This will allow you to focus attention on the actual accommodations you need to come up with, and give you and your staff time to think some things through. It also allows you to build a rapport with the assistants that will be coming to the range with Scouts and help them understand what your safety concerns are, so they can accommodate you as well.

Another subject to discuss if time permits, is what the Scout's individual goals are. A Scout doesn't have to achieve a high level of marksmanship to have a good time. On the other hand, if the Scout wants to shoot with accuracy and qualify for merit badges, you can talk about ways to get enough practice time and instruction to meet that goal.

# GENERAL OPERATING STRATEGIES

**Time Management** – Shooting ranges are a popular camp feature and we often want to maximize the number of Scouts that can participate. We are used to operating ranges in shooting cycles where all the participants are kept synchronized. When a Scout with a disability is on the range, that Scout may not be able to shoot as fast as other participants. This can create a situation where the other Scouts could resent being held up by the Scout with special needs and the Scout with the special needs may feel unnecessarily pressured and frustrated. Rather than bog down the entire activity, consider allowing the Scout with a need to remain on the firing line for two or three cycles while you rotate other participants on and off the firing line. From a safety standpoint, the key thing is to have the range cold at the right times. The range officer will ensure that any type of ammunition (arrows, slingshot ammo, tomahawks, or knives) is removed from all positions while anyone is down range. If a person needs to remain at a firing position on the range for any reason, the bow or slingshot shall also be removed from that position.

**Designated Lane** – It is a good idea to take a look at your range before camp season starts and designate a shooting lane for those Scouts with a disability that require an assistant with the Scout at the range. Since every range is different, you will want to consider different features to choose the lane that would work for you. (1) Can the Scout get in and out of the range without being obstructed by other participants? (2) Can the Scout stay on the range more than one shooting cycle without being in the way of other participants that are leaving and entering? (3) Which lane has enough space for a participant in a chair? (4) Which lane has enough space for both the Scout and an assistant to be in the lane at once? (5) Understanding that the assistant is providing direct supervision of the Scout, which lane allows the range officer the best sightlines to supervise all of the participants on the range?

**Giving Range Commands** – We are used to giving range commands verbally, and most command sequences expect a verbal response from the participant. Verbal range commands obviously do not work for deaf Scouts, and there are others that are non-verbal and are not able to reply out loud. One solution is having an assistant with each Scout that can get the Scout's attention by touch or hand signals and confirm that signals are acknowledged by the Scout. Another solution is to implement a visual signaling system of flags or lights to communicate the most critical commands, like "cease fire".

**Addressing Safety Issues** – Safety is the number one priority on any range. How the instructor / range safety officer handles these issues is critical to supporting participants in their understanding and enjoyment of the activity. The action(s) of the instructor will depend on the nature of the safety issue.

While we want to maximize inclusion of Scouts with different abilities into the shooting program, it needs to be said that **the health and safety of Scouts must take a priority**. One of the jobs of the Scout's assistant is to recognize when the Scout is struggling and needs to leave the range for a while to regroup (self-regulate).

If the range officer needs to remove a participant from the range, take time to explain to the Scout and the assistant what the problem was (if it wasn't obvious to the participant), and why it is an issue. Ask the Scout how the problem can be resolved, and what the Scout can do differently to be allowed return to the range. It might be as simple as saying they understand and will try to do better. As options, you can offer additional training or shooting at times when you can provide better supervision or when

there are fewer distractions.

A difficult situation that can occur is when a Scout arrives at the range without an assistant or a responsible adult from the Scout's unit and the range officer/instructor is unaware that the Scout has a special need. If the participant has to be removed from the range for not following safety procedures this can create hard feelings between the Scout's unit and the camp staff. The most important message to communicate to the Scout is that he/she is not being banned from the range but the range staff needs to get help from the unit leadership to resolve the issues. We suggest using a "take home" note or card that you can send back to the campsite with the Scout. Here is a sample text that you can edit for your purposes:

#### RANGE RETURN INSTRUCTIONS

\_\_\_\_\_ of Unit \_\_\_\_\_ likely needs an accommodation in order to shoot safely at the \_\_\_\_\_ range and the shooting staff needs input from those that know the camper best. He/she has been asked to leave the range for now and to return later with a unit leader, caregiver, parent, or guardian to discuss what we need to do differently to allow this youth to shoot on the range. The shooting staff wants every camper to have an enjoyable, educational, and safe experience at our range. The best way to achieve this is with clear communication between everyone involved. Sincerely yours, \_\_\_\_\_ Range Officer

**Outright banishment from a range is a last resort. Every effort must be made to resolve safety concerns with the Scout and the unit leaders before banishment.** Any time a Scout is asked to leave the range for any reason, the program director should be notified. A conference between the range officer/instructor, program director, and Scout's unit leader should be requested.

## SPECIAL TRAINING FOR A SCOUT'S ASSISTANT

Range officers always give an orientation when participants arrive at the range for the first time to explain the equipment being used, the features of that specific range, and to review the range commands. An assistant arriving with a Scout with special needs will need the same training plus a little more. If you are using a range aide as a Scout's assistant while at the range, these supplemental instructions will still apply. **The range officer cannot be the individual's assistant if there are any other participants on the range.**

All assistants need to know that they are being relied on to be the hearing/speaking translator to communicate range commands to the Scout and acknowledgements from the Scout. This needs to be fast and the method the assistant uses to communicate with the Scout through hand signals, signs, or touch needs to be worked out and practiced with the Scout before coming up to the firing line. With archery ranges, the assistant can drop a hand into the field of vision of the shooter to get his or her attention while the assistant is still behind the projectile.

For a Scout in the first group that we mentioned earlier, **where the Scout can comply with range rules** without any concern, the discussion with the assistant and Scout will focus on what does the Scout need help with specifically, and how equipment on the range can be deployed to make shooting workable. This is the easier situation.

With Scouts in the second group **where the Scout may not be relied on as an individual to follow range rules** by himself or herself, the discussion with the assistant takes on another dimension. Not every caregiver will be willing and able to take on the role of a shooting assistant, but they won't be able to make that decision until the range officer has briefed them on the responsibilities.

**Main Things** – The assistant needs to understand the four things that must be accomplished are that (1) no shots are fired after a cease fire command; (2) no one goes downrange to retrieve anything until a cease fire/stop command has been called and all ammunition is secured; and (3) no one points the bow or slingshot high (sky draw) or to the side while drawing. The assistant must be able and willing to do what it takes to accomplish this, including taking hold of the shooter.

**Vigilance** – The assistant needs to understand that they are providing a focused set of eyes and ears to keep the range safe for everyone. They are not there to take pictures or videos of the Scout's experience to share with folks back home. The assistant needs to remain focused on where the projectile is pointed.

**Speed and Proximity** – The assistant needs to be able to act quickly to respond to unexpected movements of the bow, slingshot, or the Scout. This means that the assistant needs to stay physically close to the Scout that is shooting on the range. With tomahawk and knife throwing this is not always possible.

**Strength** – When a disability creates a realistic concern that the Scout might wave a projectile around or run downrange during shooting, the assistant has to be strong enough to physically control and overpower the Scout's movements. A size mismatch between a stronger Scout and a weaker assistant could be a problem. The obvious example would be a Scout that has an intellectual disability and is physically an adult, but is participating in Scouting as a youth.

**Authority** – The assistant needs the authority to call cease fire at any time if the Scout they are working with moves across the firing line. If the assistant recognizes that the Scout is not in a "good head space" for safe shooting or is being distressed in some way, the assistant needs to remove the Scout from the range and has the authority to do so.

## SPECIFIC SITUATIONS

**Tomahawk and Knife Throwing Ranges** – It is more difficult to accommodate Scouts that could have erratic behavior on tomahawk ranges than on other types of ranges. An assistant cannot be as close to the thrower as in other sports because of the wind-up for the throw. There isn't a place to safely grab the tomahawk or knife once it is in motion. However, there is a big difference between a tomahawk or knife range with one lane, where participants go one at a time and a larger range with multiple throwers going in rounds. With a single-lane range, the thrower can move closer or farther from the target and have greater success. The range officer can work directly with the thrower and monitor both the throwing motion and whether the thrower is getting agitated and might have problem behavior. Thirdly, there are fewer people close by the thrower to be at risk from a wild swing. A practical accommodation for a multiple lane range is just to operate for just a few minutes with just one thrower.

**Wheelchairs** – Permanent modifications to provide access to the shooting range for wheelchairs and mobility equipment is outside of the scope of this module. It bears mention in passing that it should be

possible to bring a participant up to the firing line and be able to transfer a participant from a wheelchair to another chair for shooting. If the range staff needs to help a Scout transfer from and to a mobility chair, they need to take direction from the Scout and the caregiver to do so in the most comfortable way. A Scout that looks frail may not actually be fragile.

**Blind/Low Vision** – Even without vision, a Scout can master the underlying skills of marksmanship. All people have an internal sense called proprioception, which allows us to intuitively know where every part of our body is at all times. That is how you can close your eyes and still touch your nose or your opposite elbow. A Scout that doesn't see can use this sense to maintain a consistent position from shot to shot with a bow, and can synchronize the aiming motion to the sound of a target thrower for sporting arrows. To get zeroed in on the target, the Scout will need a bow with a laser sight and a spotter to guide the aiming. For slingshots, the spotter gives verbal guidance after each shot to zero in on the target.

People with low vision may not get their best vision by looking straight ahead. It could be that they see best while their eyeballs are turned up, down, left, or right. They probably do this all the time and don't think about how it looks to others. It is OK to ask the person how much vision they have and if there is anything you can do to make the target more visible. If you need more information about vision, see [Module M \(https://ablescouts.org/toolbox/m/\)](https://ablescouts.org/toolbox/m/).

**Deaf/Hard of Hearing/Non-Verbal** – The challenge here is not the actual shooting, but communicating to keep the range safe. The Scout will need a second person with him or her to translate both ways, so the Scout can acknowledge commands. If the Scout already has a tablet, sign language, signboard, or other means of communicating, you want to use that first. While it is not a good choice for range commands, for shooting instruction it is helpful to have a clipboard-size signboard with icons or words that the assistant and Scout can use to communicate by pointing. A small whiteboard and markers can help with communication as well. If you need more information about hearing, see [Module N \(https://ablescouts.org/toolbox/n/\)](https://ablescouts.org/toolbox/n/). For more about non-verbal communication, see [Module S \(https://ablescouts.org/toolbox/s/\)](https://ablescouts.org/toolbox/s/).

**Lower Body Physical Disability** – If the only disability is not being able to stand or walk, the shooter can usually shoot from a seated position in a chair. The chair faces to the side from the direction of shooting to allow the arms to be extended without hitting the backrest. If the wheelchair is narrow enough, the Scout may be able to use a bow while sitting in the regular wheelchair. If the Scout has to transfer to a regular chair to get a narrower profile, consider whether the Scout needs to have the torso supported. This can be done with a gait belt to allow the Scout to be supported by an assistant or to be secured to the back of the chair.

**Arm/Upper Body Strength Limitation** – Using a bow/slingshot with a light draw weight will compensate for most arm strength limitations. When you use a light draw bow/slingshot, the target needs to be moved close enough to the shooter to be in range with the lighter launcher. You want to be prepared for a participant who lacks the strength to lift and hold the weight of the bow for a reasonable length of time. A bow stand can be used to carry the weight.

**Hand Strength Limitation** – Whether the Scout has a fine motor control limitation like a tremor or limited hand strength, the solutions are similar. A caliper release aid allows the bow to be drawn with the wrist and then released by gentle pressure from a finger or cheek.

**One-handed** – In this scenario, an arm is missing but the other arm and hand are strong enough to draw and release. There are two ways to set up special equipment for this situation and different shooters will



have different preferences. In one set-up, the bow/slingshot is held in place by a bow stand and the shooter draws and releases with the “good” hand and arm. In the other setup, the bowstring is held to a chair or the shooter’s torso by a caliper release aid and the “good” hand and arm are used to push the bow away to draw the bow. The release is operated by a mouth trigger or pressure from a cheek.

**No Hands** – A person with this disability will be accustomed to doing things with their feet that others do with their hands. For archery, the usual arrangement is to attach a caliper release to the shooter’s torso and then push the bow away and aim with one foot.

**For additional ideas see the Adaptive Archery Manual from USA Archery. (<https://www.usarchery.org/participate/adaptive-archery/adaptive-archery-resources> (<https://www.usarchery.org/participate/adaptive-archery/adaptive-archery-resources>))**

## SUGGESTED EQUIPMENT LIST

Figure 1 illustrates an archery range with a basic set of adaptive archery equipment. For safety reasons, it is a good idea to purchase commercially available equipment when it is available rather than using something homemade. In shooting sports, there are many devices available for purchase as adaptive equipment even though some of it was marketed for other purposes. **This list isn’t intended to limit your creativity or prevent you from providing equipment with additional capability.**

Most archery ranges should be able to afford the following basic equipment:



*Figure 1*

- **Bows with light draw weights** – These can be recurve or compound bows. These are needed anyway for young scouts that do not have disabilities. Remember to get both left and right-handed versions.
- **Laser bowsight**
- **Caliper release aids** – These eliminate the pinching force needed to grip the bowstring and draw the bow. They can be strapped to the wrist, shoulder, or torso and operated with a single finger or pressure from the cheek. Some can be operated by a biting action (sanitize for each shooter). Figure 2 illustrates a trigger release.
- **Chair and stool** – A chair allows the shooter to work from a seated position and provides an attachment point for a bow stand or caliper release. A stool may be sufficient to allow someone with lower body strength limitations to shoot from a near-standing position.

- **Bow Stand** – Unlike bow stands that are simply places to rest the bow between shots, an adaptive bow stand has a way to anchor it to the ground or ballast it so it can withstand the force of drawing the bow. It can also be mounted to a chair.
- **Hand held signboards** for communicating with Scouts by pointing at words and symbols.
- **Small Whiteboard and Markers**

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*Figure 2*

