Guide Running: A Primer for Educators and Coaches

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Abstract

Guide runners provide vital information for runners with visual impairments. When choosing a guide runner, athletes and coaches must consider motor competence, physical safety, and emotional safety. In general, children are not considered competent runners until 6 to 10 years of age, which could impact a child's success as a guide runner (Bolger et al., 2021). With respect to the physical and emotional safety that a guide can provide, the quality of assistance, presentation of appropriate feedback, support of autonomy, and support of socialization are all important components to the success of a guide team (Saulynas et al., 2022).

Tethers are the best method for facilitating fluid movements and communication. While the use of a standard hand-to-elbow human guide is possible while running, physical contact is more restrictive than tether use, as it does not allow runners to move their arms in a natural pattern (Holland et al., 2020). When choosing a type of tether, runners must consider ease of use, biomechanics, and what is allowed in their desired sport competition. Paralympic athletics, National Collegiate Athletic Association (NCAA) competitions, middle and high school running events, triathlons, and community recreation activities all have different rules and regulations regarding acceptable tethers.

Running is one of the most popular forms of physical activity for the everyday person, particularly for children and adolescents (Hulteen, 2017). Running has a variety of adaptations for disabled athletes, depending on the needs of the individual. For visually impaired athletes, the most common adaptations are guide runners and tethers.

Guide runners provide vital information for runners with visual impairments. Both verbal and nonverbal communication between runners and their guides are

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incredibly important in creating a safe and successful run. Tethers are the best method for facilitating fluid movements and communication. Unlike the stiffness of a direct human guide, a tether allows for freedom of movement but leaves a physical connection between the runner and the guide to ensure safety throughout the run.

Preference, distance, and regulation often impact athlete and guide choices regarding which type of tether to use. Experience from both the visually impaired runner and the guide can also play a part in the way the tether is used. Experienced guide teams find that "shared intercorporeal understandings within their guided-running relationships [become] so well-developed that tether tension was often sufficient to transmit information and instruction" (Hall et al., 2023, p. 7).

This article will explore the different tether options that are available. It will also look at the qualifications for guide runners and the rules and regulations surrounding tethers in different forms of competitions and events.

Tether Types

Tethers are flexible pieces of material that are used to connect blind athletes and their guides during physical activity (Foster et al., 2020; Lepore-Stevens, 2022; Lieberman et al., 2019). While the use of a standard hand-to-elbow human guide is possible while running, physical contact is more restrictive than tether use, as it does not allow runners to move their arms in a natural pattern (Holland et al., 2020). Commercially produced tethers are available; however, runners often use homemade ones. In their research on guide running, Saulynas et al. (2022) found that "all but one of the participants that used tethers while running with a guide, employed 'make-shift' tethers as opposed to a piece specifically designed for that purpose" (p. 8). Participants in Saulynas et al.'s (2022) research used homemade tethers that were fashioned from clothesline, resistance bands, and shoelaces. The two primary types of tethers used by blind athletes are hand tethers and waist tethers.

Hand Tether

A hand tether connects athletes with visual impairments and their guides by a rope held between their hands. When the visually impaired athlete feels tension on the tether, they are moving too far away from the guide and can correct his or her course based on that feedback. Typically, hand tethers are approximately 18 inches long for novice athletes, and they feature a loop at each end for each runner to hold onto (United in Stride, n.d.). Runners should grasp the loops, rather than wrapping the loops around their wrists or fingers, in order to avoid injury if one party falls. Hand tethers require both runners to synchronize their arm movements and stay in stride with one another (Figure 1).

Figure 1. Hand Tether. A coach wearing a neon yellow guide vest guides a young athlete by using a hand tether. The pair is running on a track, with the guide on the athlete's right side, during a community race.

Waist Tether

A waist tether connects an athlete with a visual impairment to his or her guide at the waist, rather than at the hand. Waist tethers consist of three parts: a belt around each runner's waist and a band connecting the two (Camp Abilities Delaware, 2020). This type of tether allows for unobstructed arm movement, which may be preferable for athletes and guides who are not skilled runners, are running a long distance, or have few opportunities to practice together (Figure 2).

Impact of Biomechanics on Tether Choices

Tethered running at the elite level ideally joins two runners as one. When using a hand tether, arm swing synchronizes between athletes, as seen in Paralympic 50m, 100m, and 200m races. However, as running distance and speed increase, this level of synchronization is more difficult to attain and maintain. New runners and younger children may have difficulty with the rhythm and coordination required to move

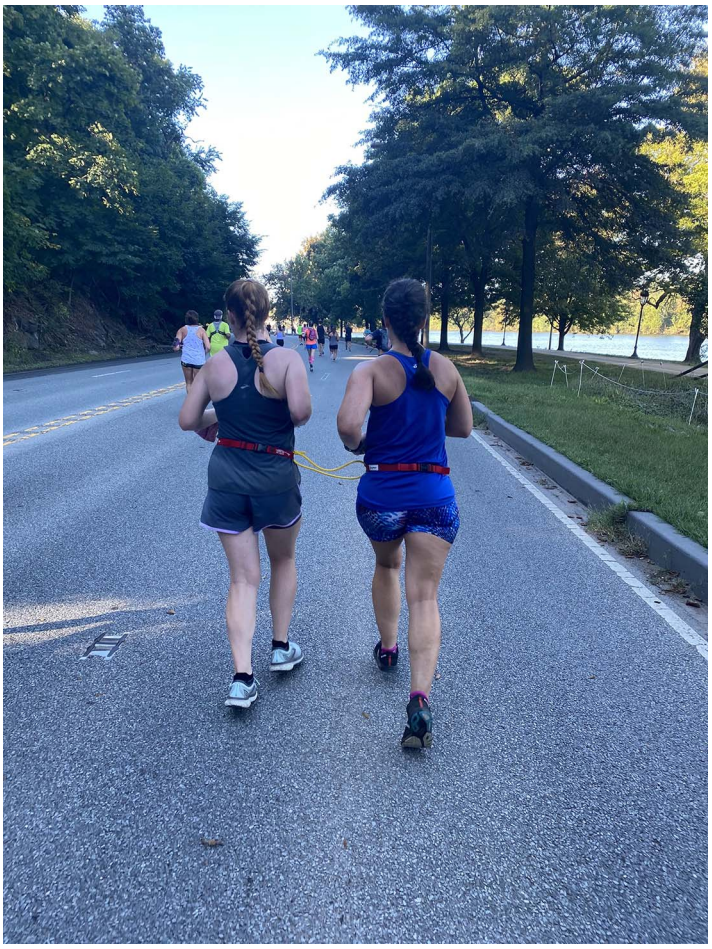

Figure 2. Waist Tether. A guide runner runs alongside an athlete with a visual impairment by using a waist tether during a half-marathon road race. The guide is on the athlete's right side, in accordance with the athlete's preference for distance events.

their arms in tandem. Even at elite levels, athletes have lost races due to a lack of synchronization at a key moment (Lima et al., 2016).

Adjustments that runners must make to their arm swing to use a hand tether likely has effects on biomechanics and potentially has effects on the prevalence of injuries. While research on tether usage is sparse, previous biomechanical studies showed that running with one arm restrained resulted in increased frontal plane mechanics in the knee and hip (Agresta et al., 2017). This change in mechanics is associated with an increased risk of knee injury (Agresta et al., 2017). Runners with suppressed arm swings demonstrate decreased peak vertical ground reaction forces of 10 to 13% of their bodyweights as well as increased peak lateral ground reaction forces of 4 to 6% of their bodyweights (Miller et al. 2009). Extrapolating these conclusions, hand tethers may decrease running economy, lead to more frontal plane movements, and increase injury rates. While running with a tether is not

the same as running with one or both arms restrained, running with a tether can interfere with a natural arm swing. Future research on tethers should compare the effects of waist versus hand tethers on biomechanics, running economy, and injury rates.

Qualifications of a Competent Guide

Age and Motor Competence

In schools, peers are often the most readily available options for guides. Children have the developmental potential to master locomotor skills, such as running, by age 6; however, this varies due to individual characteristics, such as gender, opportunities to practice, and disability status (Goodway et al., 2021). With regards to running, motor competence is an important characteristic of a successful guide runner, particularly if endurance or form is the purpose of the running activity. Bolger et al. (2021) report that approximately 81% of children are proficient runners by the age of 6 to 8 years and that 85% are proficient by the age of 9 to 10 years. Based on these data, children with visual impairments should not be paired with a same-age peer guide runner until at least six years of age. Ideally, a physical educator would perform a motor assessment, such as the Test of Gross Motor Development - 3rd Edition (TGMD-3) (Ulrich, 2016), to determine the running proficiency of the potential guide prior to pairing students with visual impairments with a same-age guide runner in a physical education class.

Safety

Guide runners must enhance both physical and emotional safety for the visually impaired athletes they support. Saulynas et al. (2022) identified the quality of assistance, presentation of appropriate feedback, support of autonomy, and support of socialization as important components to quality guide running.

The quality of assistance and appropriate feedback contribute to physical safety. Guides should have a similar stride length to and should be able to run faster than the runners they support (England Athletics, 2022). However, guides should never pull or push athletes. Lima et al. (2016) found that the risk of injury increased when guide runners pushed or pulled visually impaired athletes with a tether.

Guide running requires significant communication between the athlete and the guide. Hall et al. (2023) found that both auditory and haptic feedback from the guide were important to visually impaired athletes. Guides use tether tension to provide haptic feedback on speed and direction as well as auditory descriptions of the environment to enhance safety (Hall et al., 2023). Audio description relates to "the process of translating visual information into words for people who are blind or have low vision" (Kleege & Wallin, 2015, para. 1). Like with audio describers of art and visual performances, guide runners must select relevant visual information and

interpret the environment for their visually impaired partners (Kleege & Wallin, 2015). Matamala and Orero (2007) suggest that the abilities to organize, analyze, summarize, and interpret information; think and react quickly; make decisions and problem solve; work under stress; and collaborate as part of a team are all qualities that make an individual a competent audio describer. Similarly, these qualities are all necessary for visually interpreting fast-paced information while acting as a guide runner.

Emotional safety and support, such as the promotion of autonomy and socialization, are also paramount in a guide running partnership. Hall et al. (2023) found that "the optimal co-running experience [is] grounded in a prolonged relationship, which helped to forge what has been termed 'sensory attunement' between partners" (p. 7). Ball et al. (2022) found that connection, camaraderie, and friendship were hallmarks of a successful partnership between a guide and a visually impaired athlete. A competent guide runner is one who can prove an emotionally supportive environment in addition to a physically safe one.

Guide and Tether Regulations

Various athletic competitions and organizations each establish their own regulations for legal tethers and guides. Paralympic athletics, NCAA events, middle and high school competitions, and triathlons often have more stringent guidelines than do school and community recreation programs.

Paralympic Athletics

Individuals with visual impairments who compete in Paralympic athletics are divided into three categories:

1. T11, athletes who have no light perception in both eyes, up to light perception (acuity less than LogMAR 2.60);
2. T12, athletes who have visual acuity from light perception up to 2/60 (LogMAR 1.50 to 2.60) and/or a visual field of less than 10°; or
3. T13, athletes who have visual acuity between 2/60 and 2/20 (LogMAR 1.40 to 1) and/or a visual field of less than 40° (International Paralympic Committee [IPC], 2022; United States Association of Blind Athletes, n.d.).

According to the International Paralympic Committee (2023), athletes in the T12 category may choose to use a guide, whereas athletes in the T11 category all have guide runners. Runners who use a guide are assigned two lanes for track events. For races over 5,000m, athletes may utilize two guides. Guides must wear vests that denote them as guide runners. Paralympic regulations do not state a particular side

of the athlete on which the guide should run, instead stating that the guide should be on the athlete's preferred side (IPC, 2023, p. 116). Athlete preferences may vary based on the event distance. On the track, guides are typically on the right side (outside) of the blind athlete for all events over 200m so that the guide is making up the extra distance with increased stride length (England Athletics, 2022).

In Paralympic athletics events, a runner who has a guide may use a hand or arm tether only, with no other legal guiding methods (IPC, 2023). Tethers must "consist of two closed holding loops and a middle section with two fixed spherical stoppers at each end" and be made of a non-elastic material (IPC, 2023, p. 75). The IPC (2023) dictates that the middle section between loops must be of a distinguishable color and a minimum size of 10cm. A tether may be no longer than 30cm (almost 12in) at full extension for track races and 50cm (just under 20in) for road races.

NCAA College Athletics

Section 504 of the Rehab Act of 1973 applies to colleges, both public and private, that receive federal funding (Office for Civil Rights, 2006). Colleges and universities may not "deny qualified individuals the opportunity to participate in or benefit from federally funded programs, services, or other benefits" (Office for Civil Rights, 2006, p. 2). This includes collegiate sports programs (Active Policy Solutions, n.d.).

The NCAA allows *reasonable accommodations* for students with disabilities in sport competitions (Kostek, 2022). Reasonable accommodations must not:

- "Compromise the safety of, or increase the risk of injury to, any other student-athlete;
- Change an essential element that would fundamentally alter the nature of the game; or
- Provide the student-athlete an unfair advantage over the other competitors" (Kostek, 2022, p. 202).

Accommodations are made on a case-by-case basis at the request of the athlete's university and team. As the NCAA track and field and cross country rulebook references USA Track & Field (USATF) regulations (Kostek, 2022), it would be reasonable for coaches and athletes to follow the USATF guidelines (USATF, 2023), which are detailed below, when requesting accommodations.

Middle and High School Athletics

Both Section 504 of the Rehab Act and the Individuals with Disabilities Education Act (IDEA) may apply to athletes with visual impairments at the high school level.

Under Section 504, schools are required to provide accommodations to students with disabilities in extracurricular sporting events (Galanter, 2013). Guidance from the U.S. Department of Education's Office for Civil Rights states that the legal mandates for accommodations under Section 504 supersedes the rules of any athletic association (Galanter, 2013, p. 5). However, schools may "require a level of skill or ability of a student in order for that student to participate in a selective or competitive program or activity, so long as the selection or competition criteria are not discriminatory" (Galanter, 2013, p. 3). IDEA (2017) states that children with disabilities who receive services under IDEA must have access to the supplementary aids and services determined by the individualized education program (IEP) team in extracurricular activities, such as athletics.

The National Federation of State High School Associations (NFHS) is responsible for setting rules and regulations for high school athletics. NFHS events promote USATF regulations for running events (NFHS, 2023). The USATF (2023) regulations for guides and tethers are consistent with those of the Paralympics. USATF dictates that guides must be clearly marked with guide vests. Tethers should be made of a non-elastic material and should connect runners to their guide at the hands only. At full extension, tethers can be no longer than 30cm for track races and 50cm for road races.

Triathlon

Many local triathlon events, as well as all Paralympic triathlon events, are governed by the rules of World Triathlon. According to World Triathlon (2023), all athletes with visual impairments may use a guide runner and tether. The guide runner must be at least 12 months out from personal elite competition and of the same gender and nationality as the athlete with a visual impairment. During the running portion of a triathlon, guides and blind athletes must be no greater than 0.5m (just under 20in) apart. Tethers must be made from non-elastic material. In World Triathlon events, there are no rules stating that tethers must be handheld; therefore, waist tethers are acceptable. Athletes who enter World Triathlon events using a tether for one event must tether for both the swim and the run as well as use a tandem bike, and vice versa. Triathlons that do not follow World Triathlon regulations, such as Ironman competitions, may not have the same rules for guides and tethers.

Community Recreation

Community recreation events and services fall under the Americans With Disabilities Act of 1990 (ADA). According to the ADA (2009), "accommodations shall be afforded to

an individual with a disability in the most integrated setting appropriate to the needs of the individual." A guide runner can be considered as an appropriate accommodation to allow an individual with a visual impairment to participate in community recreation with their peers. For events and activities that do not follow any of the guidelines for Paralympic or interscholastic competition, a guide runner can be anyone with whom the blind athlete is comfortable, and tethers can take a variety of forms.

Some local running competitions, such as 5k races and marathons, follow USATF regulations. USATF (2023) publishes rules that are consistent with those of the Paralympics. Tethers must be made of a non-elastic material and must be held in the hand. The maximum tether length at full extension for USATF track events is 30cm, whereas for road events, tethers can be 50cm. Guide runners should wear vests denoting them as guides. For events not governed by USATF, regulations to use a hand tether may not apply. Participants in a community race should contact the race director to ascertain whether an individual event has a determination about tether regulations.

Conclusion

Hand tethers and waist tethers are the two most prominent forms of tethers used by blind athletes and their guides. Each type of tether provides different benefits for the runners and their guides. Hand tethers are more widely accepted by various governing bodies for competition, but they can be more restrictive for full arm movements. Waist tethers allow for more individual movement, and they may be the better choice for long distance running or for novice runners. Each sport governing body has its own rules, which lack consistency for tether regulations, even through various levels of the same sport.

The athlete-guide relationship is vital to the success of a team. Running competence, safety, and the ability of the guide to provide verbal descriptions, are all important factors. Different classifications allow for different levels of support, and, within those classifications, individual athletes may require differing levels of information. Especially for children and beginning runners, it is important for guides to be proficient runners.

Athlete-guide teams can grow through practice. The more a pair runs together, the more seamlessly they can work together. While open-ended regulations, such as those of the NCAA, are important for supporting athletes in having the tether and guide situations that work best for them, a lack of consistency between organizations poses a huge barrier for athletes to have consistent accommodations throughout their careers.

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