

Providing Athletic Training Resources to Deaf and Hard-of-Hearing Persons

Molly M. Osborn, MS, LAT, ATC*; Courtney M. Meyer MS, SCAT, ATC‡; Zachary K. Winkelmann, PhD, SCAT, ATC, CHSE‡

*Florida International University, Miami, FL; ‡University of South Carolina, Columbia, SC

Correspondence

Dr. Zachary Winkelmann, 1300 Wheat Street, Columbia, SC 29208.

E-mail: winkelz@mailbox.sc.edu

Twitter: @zachwinkelmann

Full Citation

Osborn MM, Meyer CM, Winkelmann ZK. Providing athletic training resources to deaf and hard-of-hearing persons. *Clin Pract Athl Train*. 2023;6(2): 65-70. <https://doi.org/10.31622/2023/0006.02.11>.

INTRODUCTION

Athletic trainers are responsible for the care and health of active individuals in various settings, leading them to interact with diverse patient populations characterized by unique personal backgrounds, socioeconomic status, culture, physical ability, and medical disabilities. The people often overlooked in the realm of sports and recreation is the Deaf community. Approximately nine percent of the total world population is a member of the Deaf or Hard of Hearing community (See **Table 1** for definition).¹ Some Deaf athletes have other comorbidities; for example, approximately 1 in 4 Special Olympic athletes with intellectual disabilities have failed a hearing screening.² On the other hand, many Deaf individuals often have no other bodily disorder or condition requiring the removal from regular sports participation or athletic competition. Many high-profile Deaf athletes have shared their stories and advocated for the acceptance of their fellow Deaf or hard of hearing athletes. Several National Football League players, like Bonnie Sloan, Larry Brown, Kenny Walker, Flozell Adams, and Derrick Coleman, either acquired deafness slowly throughout their careers or were deaf before successful participation in the league.³ With the increase in participation and the necessity of equitable medical care among all athletes, athletic trainers need additional education, resources, and support to assist Deaf athletes when they experience an injury or illness during their athletic participation.

Table 1. Deaf Terminology⁴

Deaf	Refers to a person with complete or profound hearing loss; the capital D is often used to describe the community or culture.
deaf	Refers to the medical condition of having complete or near complete hearing loss
Hard of Hearing	Refers to a person who has mild or moderate hearing loss
Hearing Impaired	Refers to any degree of hearing loss

BARRIERS TO CARE

One significant barrier to Deaf athletes' sports participation is their ability to seek medical care like their peers. Communicating with patients is a large part of patient education and honoring a patient's beliefs, experiences, and wishes in a patient-centered care model. Healthcare providers should facilitate the care of Deaf athletes, empowering their ability to choose their healthcare options.⁵ Interpreters that were interviewed as part of a previous study made statements like, "Many patients just don't even know their communication rights. So on top of feeling disempowered, they may not even know what they can

advocate for”.⁶ Without proper modes of communication, misdiagnosis or medical errors are more likely to occur. Therefore, Deaf individuals are more at risk than hearing individuals for misdiagnosis, misunderstanding, and coercive medical care.¹ While there is a lack of data relating to communication with and the care of Deaf patients in athletic training, studies have been conducted on communication barriers in other healthcare settings.

During a study on issues related to providing care for Deaf individuals who use American Sign Language (ASL), nurse practitioners noted three critical levels at which barriers occurred (intrapersonal, interpersonal, and organizational).⁵ Barriers across each of these levels included language barriers/not knowing ASL, lack of access/presence of an interpreter, little experience with Deaf individuals, and a lack of means to communicate with Deaf individuals.⁵ Only a small portion of healthcare professionals are fluent in ASL or know basic terms, thus creating a communication gap between providers and patients.⁵ Similar barriers exist in the athletic environment and undoubtedly pose an equally impactful barrier to medical care.

Previous research identified that while healthcare providers recognize the role of interpreters as a facilitator of reasonable care, they did feel that using an interpreter was a “...last resort when all other means of communication failed.”⁵ While it may be new and uncomfortable for the provider, interpreters are essential healthcare team members when the patient and provider use different languages for their primary communication. In the absence of a formal interpreter, a family member may be available for ease of communication. However, using a patient-centered approach may pose a threat to unbiased patient education. The parent, sibling, spouse, or other family member may intentionally or unintentionally bias the information or patient responses due to personal beliefs or biases about the medical care. For this reason, the most reliable method of communication in the absence of a hired interpreter may be to write down important information and consent for all procedures. A final barrier addressed by the nurse practitioners in the study was the rarity of Deaf patients in their practice.⁵ With any situation, familiarity with procedures and resources and comfort level with different cases increases with regular review and use. Since many healthcare providers do not encounter Deaf patients regularly, they do not have this in routine practice.

INTERPRETERS AS A MEMBER OF THE MEDICAL TEAM

In the absence of a healthcare provider trained in medical ASL, interpreters are the gold standard of medical care. The healthcare provider must recognize the value interpreters bring to their practice and the care team.⁷ The Americans with Disabilities Act (ADA) describe situations where an interpreter may be necessary to ensure effective healthcare communication.⁸ These situations include obtaining consent for treatment, taking a medical history, explaining therapeutic interventions and procedures, and providing a diagnosis.⁸ In a study by Chatzidamianos et al., researchers interviewed ASL interpreters in the mental health setting.⁹ They found that the triangle of care between the patient, interpreter, and healthcare provider was the most important theme in caring for a Deaf patient.⁹ As Deaf individuals do not communicate verbally, their non-verbal cues and body language are, by necessity, more important and more prominent. ASL interpreters are responsible for conveying not only the signed words but also the patient's non-verbal emotional cues.^{7,9} It is important when using an interpreter to continue conversing with the patient as if the interpreter is not there and mainly speaking with the interpreter to provide clarifying information.¹ Maintaining eye contact with the patient and allowing them to read any facial expressions or body language is important to building trust with them.⁷ It is also important to avoid using third-person language or having side conversations with the interpreter during the appointment.⁷ If needed, a post-encounter debrief can be scheduled with the interpreter to improve communication or further explain concepts.⁷

Consistent use of a single interpreter may be important in ensuring all relevant information is communicated in both directions. This also builds the trust essential for the foundation of the triangle of care. Without trust created between all three team members, trust cannot exist between any two members.⁹ As healthcare providers, athletic trainers can integrate this triangle of care by building a relationship with interpreters within the community before working with Deaf patients. Whether that is through accessibility resource offices, community resources, or private interpreter services, athletic trainers should build relationships with ASL interpreters before the need for their services. This can help develop that triangle of care with the patient more quickly by already having one strong side in the triangle.

OTHER STRATEGIES TO IMPROVE CARE

Another option for increasing the efficiency and availability of health care for Deaf individuals has emerged and gained prevalence in recent years: telemedicine. Telemedicine allows the provider, interpreter, and patient to access the appointments remotely.¹⁰ This option allows athletic trainers in rural areas to access care for their Deaf patients if their area does not have any medical interpreter for ASL. Telemedicine systems designed for the triangle of care have been deemed acceptable for healthcare use on simulated patient interactions for most medical appointments.¹⁰ Also, if an interpreter is unavailable for an appointment, many telemedicine modalities have closed captioning functions. However, it should be noted that the closed captioning function is imperfect due to errors in the software captions, lack of ability to interpret non-verbal cues, and unreliability of the technology. Telemedicine can offer a low-cost alternative to schedule appointments with an interpreter on the call, even if the appointment is last minute.¹¹

Patient education via brochures, pamphlets, and printed materials about their appointment, health conditions, or treatments should be incorporated to ensure continuity of care and informed decision-making.¹² When choosing effective patient education strategies, athletic trainers must consider each patient's means, access, resources, and goals. Some individuals respond better to spoken word versus written materials, making presentations, podcasts, videos, and peer-to-peer discussion a more effective pathway for information and education. However, written communication is one of the most accessible ways to convey medical information without an interpreter present for Deaf patients. It can represent a way to clarify any words that are not translated well through ASL, even with the help of a medical interpreter.¹ Special care should be given to providing Deaf athletes with an encounter note reviewing everything covered in their appointment and whom to contact with questions.

In a blog post by an ASL using Deaf individual,¹ she outlines many small things healthcare providers can do to provide a better patient experience. One simple thing to do that hearing people only sometimes consider is getting their attention before signing, speaking, writing, or performing any examination or treatment.¹ Deaf people cannot orient to sound the way hearing people do, so healthcare providers should tap the arm or flicker lights to alert them to you. It is also important to face them directly and not stand straight in front of the light source.¹ This will allow the Deaf person to see and interpret the provider's body language and facial expressions, whereas a hearing person may focus on speech tone instead. Some Deaf individuals are proficient in reading lips, so wearing a mask will inhibit communication in these situations. See **Table 2** for more communication practices to incorporate in patient care. It is important to note that most Deaf persons cannot proficiently lip read, so assuming that you will be able to communicate this way with ease is inappropriate.¹ Even in ideal situations, lip reading only yields 30-40% understanding, so its use as the sole method of communication should be discouraged.¹¹ Additionally, provider time constraints and rushing appointments have been described as barriers to proper communication and patient education when an interpreter is absent.⁶ Prior to the appointment or providing

athletic training services, a conversation about the preferred method of communication and the patient's need for additional resources should occur. Medical interpreters, including those fluent in ASL, are legally required to be available if requested by a patient under the ADA.¹³ While not all patients will elect to have a medical interpreter present, it is essential to establish relationships with community partners in advance to ensure access to these resources should they be needed. If an emergent situation arises and an interpreter is not readily available, athletic trainers should implement strategies for communicating with Deaf or hard-of-hearing individual. **Table 3** provides recommendations for resources for the provider to learn more about.

Table 2. Best Practices in Communication¹⁴

Positioning	Avoid standing in front of bright light. The face should be visible.
Speech	Speak at a typical speed. Refrain from over-enunciating. Verbalize one idea at a time. Ask only one question at a time.
Non-verbal Cues	Maintain eye contact. Use typical facial expressions to guide ideas. Introduce the patient to the location of information being discussed on any visual aids by pointing.
Environment	Avoid discussions in areas with visual distractions.

CONCLUSIONS

Deaf individuals are members of physically active populations that athletic trainers work with regularly. Athletic trainers should work with these individuals to provide thorough care while allowing them the same autonomy as hearing patients. Interpreters provide a great resource in healthcare and function as a part of the healthcare team, just as many other professions do. For this reason, athletic trainers should seek out ASL interpreters before requiring their services and build a professional relationship. In addition, written notes explaining their diagnoses, options, and current treatment should be provided. Overall, extra care should be taken to incorporate any accommodations Deaf athletes need to be satisfied with their medical care and ability to communicate with their healthcare provider.

Table 3. Resources For Athletic Trainers

Resource Hyperlink	Description	Price	Time Commitment
Signing Online ¹⁵	This educational online course consists of 4 courses of 10 classes each.	\$300 total	24 Months
Basic Medical Sign Language ¹⁶	This pamphlet teaches basic signs needed for communicating in a medical setting.	Free	N/A
Language Line Telehealth Interpreting ¹⁷	This website provides on-demand medical interpreters	\$4.95 per minute	Must pre-purchase package
Deaf Athletes- How to Provide Care Podcast ¹⁸	This is a podcast made by and for ATs. In this episode, two ATs who have experience with Deaf or hard-of-hearing athletes answer questions and discuss care.	Free	1 hour 5 minutes
Handling Relay Service Phone Calls... ¹⁹	This pamphlet has tips for using relay services via phone with patients who are deaf or hard of hearing.	Free	N/A

REFERENCES

1. Little KJ. Healthcare and the deaf: The Healthcare Experience from a Deaf Perspective. LifePrint. https://www.lifeprint.com/asl101/topics/healthcare_and_the_deaf02.htm.
2. Hild U, Hey C, Baumann U, Montgomery J, Euler HA, Neumann K. High prevalence of hearing disorders at the Special Olympics indicate need to screen persons with intellectual disability. *J Intellect Disabil Res.* 2008;52(Pt 6):520-528. <https://doi.org/10.1111/j.1365-2788.2008.01059.x>.
3. von Büren J. 4 deaf NFL players you probably didn't know about. Hearing Like Me. May 16, 2019. <https://www.hearinglikeme.com/4-deaf-nfl-players-you-probably-didnt-know-about/>.
4. ConnectHear. The difference between d/deaf, hard of hearing and hearing-impaired. ConnectHear. August 18, 2020. Accessed 2022. <https://www.connecthear.org/post/the-difference-between-d-deaf-hard-of-hearing-and-hearing-impaired>.
5. Pendergrass KM, Nemeth L, Newman SD, Jenkins CM, Jones EG. Nurse practitioner perceptions of barriers and facilitators in providing health care for deaf American Sign Language users: A qualitative socio-ecological approach. *J Am Assoc Nurse Pract.* 2017;29(6):316-323. <https://doi.org/10.1002/2327-6924.12461>.
6. Hommes RE, Borash AI, Hartwig K, DeGracia D. American sign language interpreters perceptions of barriers to healthcare communication in deaf and hard of hearing patients. *J Community Health.* 2018;43(5):956-961. <https://doi.org/10.1007/s10900-018-0511-3>.
7. Hadziabdic E, Hjelm K. Working with interpreters: practical advice for use of an interpreter in healthcare. *Int J Evid Based Healthc.* 2013;11(1):69-76. <https://doi.org/10.1111/1744-1609.12005>.
8. U.S. Department of Justice. Communicating with people who are deaf or hard of hearing in hospital settings. *ADA Business Brief.* <https://www.ada.gov/hospcombrprt.pdf>. Accessed September 22, 2022.
9. Chatzidamianos G, Fletcher I, Wedlock L, Lever R. Clinical communication and the 'triangle of care' in mental health and deafness: Sign language interpreters' perspectives. *Patient Educ Couns.* 2019;102(11):2010-2015. <https://doi.org/10.1016/j.pec.2019.05.016>.

10. Hughes G, Hudgins B, MacDougall J. Using telehealth technology to improve the delivery of health services to people who are deaf. Paper presented at: The 26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society; 1-5 Sept. 2004, 2004. <http://dx.doi.org/10.1109/IEMBS.2004.1403871>.
11. Richardson KJ. Deaf culture: Competencies and best practices. *Nurse Prac.* 2014;39(5). <https://doi.org/10.1097/01.npr.0000445956.21045.c4>.
12. Bukstein DA. Patient adherence and effective communication. *Ann Allergy Asthma Immunol.* 2016;117(6):613-619. <https://doi.org/10.1016/j.anai.2016.08.029>.
13. Essex-Sorlie D. The Americans with Disabilities Act: I. History, summary, and critical components. *Acad Med.* 1994;69(7):519-524. <https://doi.org/10.1097/00001888-199407000-00001>.
14. Shuler GK, Mistler LA, Torrey K, Depukat R. Bridging communication gaps with the deaf. *Nursing.* 2022. 2013;43(11):24-30. <https://doi.org/10.1097/01.nurse.0000435197.65529.cd>.
15. Online ASL classes: Learn sign language online. Signing Online. June 24, 2023. <https://signingonline.com/>.
16. Services CDoS, Access OoD. Basic Medical Sign Language. In: Services SoCHaHSADoS, ed. <https://www.ellimedlibrary.org/uploads/9/1/9/0/91901496/asl.pdf>
17. Solutions L. Language translation and interpreting services. LanguageLine Solutions. <https://www.languageline.com/>.
18. Jackson J. Deaf Athletes – How to provide care. The Sports Medicine Broadcast. 2021. Accessed May 12, 2022. <https://sportsmedicinebroadcast.com/caring-for-deaf-athletes/#:~:text=Talking%20slower%20or%20louder%20does,Have%20empathy!!!>.
19. Hearing DoSftDaHo. Handling relay srice calls with patients that have Hearing Loss. In: Services NCDoHaH, ed. www.ncdhhs.gov/dsdhh2020.