Recommendations to Promote Accessibility in Rowing for Athletes who are Deaf or Hard of Hearing

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Abstract

Participation on any level of the sport of rowing provides rowers with physical, psychological, and social benefits. The unique demands of the sport allow it to be accessible for athletes who are Deaf or hard of hearing (D/HOH). Inclusive participation in rowing allows rowers who are D/HOH to experience similar benefits to their teammates who hear. However, to achieve an inclusive team environment, coaches, coxswains, and teammates need to understand and accommodate the communication needs of rowers who are D/HOH. Many of these accommodations stem from collaborating on the timing and medium of feedback and instruction, how best to utilize an interpreter, and the creation of one-handed signals to be used on the water. The purpose of this article is to outline the needs of rowers who are D/HOH, the benefits of promoting accessibility and inclusion for these athletes, and provide recommendations and strategies for coaches, coxswains, and teammates to facilitate that accessibility and inclusion in and out of the boat.

Keywords: *Inclusion, feedback, sign language, coxswain, coach*

The organized sport of rowing is a historied and traditioned sport with a broad range of competitive levels from recreational and competitive clubs to high school and collegiate programs as well as national and international teams (Rich et al., 2022). Participation on any level of the sport can provide rowers with physical, psychological, and social benefits through the intensity of training and competition as well the camaraderie fostered from that training and competition with like-minded peers. These potential benefits are available to rowers with sensory impairments due to the sport's accessibility. This accessibility stems from the existence of the coxswain (an additional non-rowing athlete whose whole role is to steer the boat and provide verbal technical feedback and encouragement; Rich et al., 2021) and the ability of rowers to feel the timing and movement of the boat and their peers ("boat feel") without needing to see those movements (Rich et al., 2022). Because coxswains are responsible for steering the boat, and not rowers, they remove a significant sensory requirements from participating in the rowing position, enabling the sport to be based more on feel. "Boat feel," and the accessibility it enables, exists because in a boat, rowers sit in a line facing the back of the boat (where the coxswain sits) on sliding seats with their feet strapped into footplates (Rich et al., 2021). The boat is then propelled by rowers driving through the footplate, while maintaining tension on one or two oars, and extending their legs and back while pulling with their arms. Maximizing the effectiveness of these two factors of accessibility in rowing is not a given, and requires considerations and minimal, yet specific, accommodations by coaches (Rich et al., 2022). However, the same solutions to accessibility for rowers with one type of sensory impairment, such as visual impairment, cannot be assumed relevant for all rowing populations, such as rowers who are Deaf or hard of hearing (D/HOH; Lieberman, 2022), and a different approach may be needed (Irish et al., 2018).

The term Deaf refers to a severe or profound hearing loss in which hearing is insufficient for comprehension of auditory information, with or without the use of a hearing aid (Lieberman, 2022). When written with an uppercase D, Deaf also refers to those who share a language (sign) and culture (Tanure Alves et al., 2021). Hard of hearing refers to a hearing loss that makes understanding audible speech difficult, but not impossible, and does not imply connections to Deaf

culture (Lieberman, 2022; Tanure Alves et al., 2021). Individuals who are Deaf do not perceive their hearing loss as a disability, but rather a part of their identity (Kurková & Scheetz, 2016).

Despite rowing's elements of accessibility, coaching a team with athletes who are D/HOH can be challenging when trying to provide individual and real time feedback while rowing out on the water (Kurková & Scheetz, 2016). Hearing loss can place a large demand on a rower's attention, and unlike their peers who hear, who can listen auditorily while rowing and training, rowers who are D/HOH must first listen with their eyes before they can participate. Depending on the degree and frequency level of hearing loss, rowers who are HOH can be challenged to discern between their coach and coxswain when both are providing technical or motivational feedback. A coxswain may be calling the boat through a drill, while the coach is complimenting their execution of the drill, and rowers who are HOH may confuse the two and lose timing with their teammates. While many coaches and coxswains have adequate rowing-specific knowledge, they lack training regarding the specifics that need to be considered when working with a rower who is D/HOH (Kurková & Scheetz, 2016). Education on the coaching and communication needs of rowers who are D/HOH and an informed targeted support of communication and collaboration can help coaches, coxswains, and even peers be more inclusive of rowers who are D/HOH. The purpose of this article is to provide education on the needs of rowers who are D/HOH, the benefits of promoting accessibility and inclusion for these athletes, and to outline recommendations and strategies for coaches, coxswains, and teammates to facilitate that accessibility and inclusion in and out of the boat.

Benefits of Inclusion and Detriments of Exclusion

Promoting accessibility and inclusion for individuals who are D/HOH in rowing can provide the same physical, psychological, and social benefits that all rowers gain through accessible participation (Irish et al., 2018; Rich et al., 2022; Uchida et al., 2015). These benefits largely stem from social aspects and relationships formed through inclusive participation. The inclusion of rowers who are D/HOH, with acceptance and accommodations from their coaches and peers, has the potential to not only increase their motivation and physical performance in and out of the sport, but also the motivation of their teammates who hear (Irish et al., 2018; Kurková & Scheetz, 2016; Tanure Alves et al., 2021). When the opportunity to compete with peers who hear is inclusive and accessible, it can play a role in helping rowers who are D/HOH integrate into mainstream society, strengthens their self-identity and self-esteem, and enhances their confidence in maintaining a lifestyle that allows them to be contributing members of the Deaf community (Ulrich & Egbert, 2013).

When rowers who are D/HOH are excluded from hearing sport events they feel alienated and experience reduced self-esteem (Irish et al., 2018; Tanure Alves et al., 2021). This can occur even if they are not formally excluded from participation. Lack of accessibility can make rowers who are D/HOH feel marginalized from the social component of the sport and may also inhibit them from understanding the full meaning of the activity (Kurková & Scheetz, 2016; Tanure Alves et al., 2021). This may occur even with an interpreter. This can be exacerbated when rowers who are D/HOH feel there is a lack of understanding of the specific needs that come from coaching a person who is D/HOH, such as when they ask a question and a coach who hears perceives the request as a lack of comprehension or lack of attention (Irish et al., 2018; Kurková et al., 2011). This lack of understanding and perception can serve as a deterrent to coaches who hear understanding these needs and perpetuate the lack of accessibility. Inverse to the benefits of inclusion of rowers who are D/HOH, exclusion and lack of accessibility can serve as barriers to their motivations, making them question their training, level of effort, and if they are good enough to compete with rowers who hear (Irish et al., 2018).

Recommendations

While understanding the needs of rowers who are D/HOH as well as the benefits to their inclusion within the sport is important in creating a positive team environment, it is necessary for coaches to put that understanding into practice to promote accessibility in rowing. This facilitation does not only have to come from coaches, but coxswains, and peers as well. The following sections provide bulleted specific strategies and considerations for coaches, coxswains, and teammates to promote accessibility for rowers who are D/HOH to create a more inclusive team.

Coaches

- To round out their expertise in rowing and instruction, coaches should learn sign language to enable direct communication with their athletes who are D/HOH, as signed languages are not just spoken language conveyed through signs (Ammons & Eickman, 2011; Kurková & Scheetz, 2016). However, not all rowers who are D/HOH may know how to sign. At a minimum, specific signs connected to rowing jargon should be learned by both the coach and rowers who are D/HOH (see coxswain section).
- Regardless of how a coach is communicating with their rowers who are D/HOH, they should get the athlete's attention prior to communicating (Kurková & Scheetz, 2016). This can be done through waving their arms, flags, gestures, an FM system directly into the rower's hearing aids, and signing the rower's name and pointing. Coaches can also have teammates who hear inform the rower that the coach wants their attention.

Coaches should avoid hollering at their rowers, as it draws unwanted attention. However, mid-row communication should be pre-planned and minimal (e.g., raising a colored flag to indicate pre-discussed technical feedback for a drill) as having any rower look in their coach's direction can impact the balance of the boat and their ability to keep time with their teammates (Rich et al., 2022). It is okay to start and stop training intervals to provide feedback (Ulrich & Egbert, 2013). Depending on the rower's level of hearing, the background noise of the oars, coxswain, and launch (coach motorboat) can make it difficult and distracting to discern feedback while rowing (Kurková & Scheetz, 2016). Though some rowers who are D/HOH can read lips, lip reading is mentally taxing, and only a third of speech is visible on the lips (Lieberman, 2022). This can be exacerbated depending upon how far away the launch is or by being mid-row.

- Modeling technique and feedback, as well as showing video, can be a useful tool to demonstrate the nuances of the desired technical change. On the water, coaches can also bring the launch over to the rower who is D/HOH's boat and physically adjust their position (Rich et al., 2022).
- Coaches should remember to keep it simple and stress the fundamentals.
- If costs allow, coaches should bring an interpreter in the launch as often as possible. However, if an interpreter is riding along in the launch, they are only effective if the launch is close enough and positioned where rowers who are D/HOH can see the interpreter (Lieberman, 2022). When communicating through an interpreter, coaches should face the rower and not the interpreter or teammates (Ulrich & Egbert, 2013). Interpreters will often lack rowing specific knowledge (Tanure Alves et al., 2021) and may need to be educated on the immediacy of some safety communication, such as weigh-enough (command for rowers to stop rowing). Interpreters may also need to learn when and what to interpret so they are not distracting rowers who are D/HOH who should be focused within the boat (Rich et al., 2022). It is important to be aware that when communicating through an interpreter, there is an inherent delay.
- Coaches should be mindful of which side of a rower who is D/HOH's boat they drive their launch. If a rower is D/HOH in one ear, but not the other, coaches should provide feedback, when possible, on the rower's hearing side.
- While cochlear implants and hearing aids can be helpful for rowers who are D/HOH to learn on land, they are not waterproof and are at risk of being damaged on the water (Lieberman, 2022). Rowers can choose to purchase waterproof bags or covers to protect their cochlear implants in the water (https://www.cochlear.com/us/en/home/products-and-accessories/our-accessories/nucleus-water-safe-accessories)
- It is important for coaches to be flexible and consider multiple ways to present practice, as each athlete will learn differently (Kurková & Scheetz, 2016; Lieberman, 2022).
- Coaches should provide the practice plan to their athletes who are D/HOH, interpreters, and coxswains prior to practice (Ulrich & Egbert, 2013). This allows coaches to cover and review the more complicated aspects of practice on land and tie the broader explanation to a shorter cue or sign to be used mid-practice. After explaining practice to the team, coaches should check in to ensure equal understanding and detail (Tanure Alves et al., 2021). This should also be done during and after practice (Ulrich et al., 2013). Additional time may be needed to process the information.
- Be sure to understand each rower who is D/HOH's specific feedback, communication, and instructional needs, primary language, and levels of hearing loss.
- Promote leadership skills through leadership positions such as peer tutoring (Lieberman, 2022).
- Facilitate "boat feel" (connection to the movement of the boat and peers, helping with rhythm and timing by placing rowers who are D/HOH closer to the back of the boat (Lieberman, 2022; Rich et al., 2022). This has the added benefit of bringing rowers who are D/HOH closer to the coxswain to see any signs they may be using. "Boat feel" can first be practiced on multiple land rowing training machines (i.e., Ergs) connected by slides (rectangular steel bases with wheeled carriages to support the ergs and transfer momentum between the ergs every stroke; Rich et al., 2022).
- Hold the same expectations for rowers who are D/HOH as all other athletes.

Coxswains

- Coxswains should develop a system of hand signals (see Figure 1) and prompts to enable them to communicate with athletes who are D/HOH while on the water and rowing (Ulrich & Egbert, 2013). These signals do not have to be exclusive to the coxswain but can also be used by coaches. Therefore, any signals created (some already exist) will need to be one-handed in nature, as the coxswain needs a hand to steer the boat, and the coaches need a hand to drive the launch. Hand signals utilized by the coxswain may not always match up with the verbal command they are giving, but they only to need convey the information relevant to the rower who is D/HOH. Coxswains will need to display the hand signals on the side of the boat, so rowers who are D/HOH can see them if they are not sitting directly in front of their coxswain.

- The benefits of creating a system of one-handed signals will not work in a bow loader (racing boat where the coxswain sits behind all the rowers).
- Prior to hand signals being utilized, vocabulary needs to be presented visually and each term paired to an appropriate signal (Ulrich & Egbert, 2013). If a hand signal is being taught for the first time for a specific practice, it should be done on land. When pairing a visual element of rowing to a one-handed signal, the visual should be accompanied by text and sign language to assist in the learning process. Teaching and learning terminology will not be instant, and time is needed in advance to establish a new drill and corresponding signal. If limited time is provided, a rower who is D/HOH may feel like everyone is frustrated with them (Irish et al., 2018).
- Coxswains should teach these created hand signals to the whole team (Lieberman, 2022).
- Coxswains can knock on the side of the boat to get the attention of rowers who are D/HOH. Knocking can be used to communicate immediacy to rowers who are D/HOH, such as, "there has been a change of plans," "abruptly stop rowing," or "look at the hand signal now!" Knocking can be felt throughout the boat, regardless of position, but is more noticeable the closer rowers are to the coxswain.
- By adding hand signals, coxswain's already stressed multitasking ability is stressed even further. It will take time for coxswains to manage their other duties and keep up with hand signals, especially when there is a lot of switching rowers in and out during technique drills, changing stroke rates and pressures over short intervals, and keeping time. From a coach's perspective, it may look like the rower who is D/HOH is not paying attention when it is a coxswain error causing the disconnect. Coxswains will need to practice their hand signals on land.
- Coxswains should find ways to minimize their cognitive load while in the boat to make room for utilizing hand signals. This can be done by optimizing how they engage in some of their other duties, such as putting a visual mark indicating where "straight" is on the steering cable. They will then have to think less about their steering and the position of the boat's rudder when steering with one hand.
- As coxswain feedback is based on pre-planned hand signals, they are unable to give spontaneous or instantaneous feedback to new technical issues arising in rowers who are D/HOH. Coxswains will have to wait until the end of practice to explain what they are seeing inclusively.
- Pre-planned hand signals can also be used in competition and as part of a race plan. This can include sig-

Figure 1

An Example of a System of Hand Signals for Common on the Water Coxswain Commands

"One"

"Two" (Shake for "In Two")

"Rate/Pressure Up" (Upward Motion)

"Ready" (Shake)

"Row" (Drop like a flag from "Ready")

"Rate/Pressure Down" (Downward Motion)

"Weigh-Enough"

"Sprint"
(Connected to Pre-Established Race Plan)

" For Ten"
(Provide Context with Another Signal)

nals calling a "racing start" (quick strokes at the start of the race to get the boat up to speed), mid-race power strokes, or the start of the last 250 m sprint.

Teammates

- Teammates of rowers who are D/HOH should be trained and educated in the communication needs of athletes who are D/HOH (Kurková & Scheetz, 2016). This will significantly support the inclusion of any rowers who are D/HOH on the team.
- Beyond learning the one-handed signals from the coxswain, teammates of rowers who are D/HOH can be more inclusive by learning sign language (Lieberman, 2022). Like coaches and coxswains, at a minimum, specific signs connected to rowing jargon should be learned.
- Rowers who are D/HOH can be made to feel included by being paired up with a teammate who hears to tutor them or be tutored by them (Lieberman, 2022). This can be done in a practice setting, such as training on land with ergs and slides, academically, or even teaching and practicing relevant signs.
- Teammates can serve as a technical model on land for rowers who are D/HOH to mirror (Tanure Alves et al., 2021).
- Teammates can help provide any incidental information that is conveyed auditorily that was missed by the rower who is D/HOH such as a reminder by the coach where to meet the next day, a quick reminder of a social gathering, or a clap of thunder that must be addressed.

Conclusion

Rowing is a sport that has the potential to be accessible and inclusive for athletes who are D/HOH. Coaches, coxswains, and teammates of rowers who are D/HOH have the ability to promote and facilitate that inclusiveness by seeking out education and training to understand the communication needs of rowers who are D/HOH, as well as practicing specific strategies to meet those needs, such as developing a system of one-handed signals for use on the water. A future direction of research in promoting accessibility for rowers who are D/HOH would look at methods of incorporating technology to bring visual coach and coxswain feedback directly to the rowers' seats in the boat. In addition, research related to the increase of signs used by an entire team would bring to light the benefit of clear consistent communication in the rowing environment. A collaborative effort between rowers who are D/HOH and their team can lead to improved motivation, self-esteem, self-identity, confidence, and the ability to contribute equally to the boat in practice and competition.

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