



Safety/Risk Management and the Inclusion of Swimmers with Disabilities

The mission of the Disability Swimming Committee is the full inclusion of swimmers with a disability in USA Swimming programs

Many people fear that the inclusion of swimmers with disabilities in USA Swimming programs increases exposure to safety risks. In fact, the prevalence and rate of injuries suffered by swimmers with disabilities are not completely understood. Available insurance data are flawed because, in some cases, injured persons who have disabilities do not self-identify their disability status. Available research data (Ferrara & Peterson, 2000) are difficult to interpret because findings often represent multiple sports and varying levels of competition. Anecdotal observations from the former USA Swimming Disability Championships have indicated few injuries, all of which were minor (e.g., soft tissue injuries associated with slip-and-fall accidents on the pool deck or from collisions with the lane lines in the pool). Nonetheless, competitive swimming is generally regarded as a low-risk sport for persons with disabilities (Ferrara & Peterson, 2000).

The purpose of this article is to describe known health and safety concerns associated with inclusion in competitive swimming, as well as practical ways of minimizing those risks. Although some accidents and injuries are inevitable, just as they are for swimmers who do not have disabilities, the goal should always be to reduce injury risk as much as possible.

ALARA

ALARA (as low as reasonably achievable) should be the goal of any effort to reduce health and safety risks

Risk Analysis

This section includes a risk analysis of facilities used for competitive swimming, the personnel (including coaches) who work at those facilities, and the persons with disabilities who participate in swimming. Although this information is designed to be helpful with respect to inclusion, beware of over-generalizing any suggestion or of making assumptions that “one size fits all” with respect to mitigating risks. Consider the individual swimmer’s needs when making accommodations.

Facilities. The facilities used for swim practices and meets should be *accessible* and *accommodating* for all participants, including swimmers, coaches, staff, parents, and spectators who may have disabilities. A facility is accessible when participants can “get in the door” and accommodating when it is “user-friendly”. Many swimming facilities are not 100% accessible or accommodating. According to the Americans with Disabilities Act, accessibility must be improved when older facilities undergo significant renovations. But in the meantime, consider no-cost or low-cost reasonable accommodations that enable safe participation. Notice that most accommodations offered for persons with disabilities also make the facility safer and more user-friendly for everyone! Here are some suggestions.

Challenge	Providing Accommodations & Minimizing Risk
Slippery or cluttered surfaces in locker rooms and on the pool deck may lead to falls/injuries for persons who use mobility equipment such as canes and crutches, as well as persons with vision loss who may not detect hazards.	Keep locker room and deck surfaces as dry and uncluttered as possible.
Some persons with physical disabilities cannot easily navigate uneven or long distances “on foot”.	Provide accessible parking near the facility entrance. Mark curbs, level changes, or potential hazards with colored tape, traffic cones, or other visible markers. Consider alternatives to award stands that require swimmers to step onto a platform. Offer accessible seating for spectators who cannot climb steps or who use wheelchairs.
Common injuries for swimmers who are blind include cuts and scrapes caused by collisions with lane lines, especially during swim practices and meet warm-ups when lanes are crowded.	Inspect lane lines and remove broken parts before use. Try to reduce crowding in lanes used by swimmers who are blind. Coach swimmers to travel in a straight line (easier said than done!). Given that collisions may be unavoidable, have first aid supplies available.
Persons with poor vision, who use wheelchairs, who cannot hear announcements, and who cannot understand complex directions may not be able to read or understand existing signage.	Use large type with a distinct contrast between text and background. Post signage (including psych sheets, meet results, etc.) at an appropriate height for wheelchair users. Make certain that critical information such as emergency action plan provisions is presented in both visual and auditory form. Use illustrations and simple vocabulary as much as possible to facilitate understanding.
Emergency action plans do not always facilitate safety for persons who have disabilities. This may be a problem at every pool used for swim practices and meets.	Use a variety of emergency alerts including both auditory and visual signals so that everyone in the facility is aware of the need for action. Pre-plan the response for different types of emergencies (who does what, where should people go, etc.). Plan for the care and evacuation of persons with disabilities who may need assistance.
Some facilities are not equipped with mechanical lifts for use by swimmers who have limited mobility. Some lifts do not operate well. The lifts in some facilities (when installed) interfere with use of one of the pool lanes. Also, some swimmers with disabilities eschew the use of lifts.	If the facility is equipped with a lift, inspect the lift frequently to determine if batteries need to be charged, seatbelts need replacement, etc. A small gym mat may be used as an alternative to facilitate transfer from a wheelchair to the pool deck. The mat will protect the swimmer from injury. Also, if the mat is wet, it will be easier for the swimmer to slide into the water.

Challenge	Providing Accommodations & Minimizing Risk
Some swimmers with disabilities have unique needs for accommodations and privacy with respect to personal care.	Consider low shower controls and wheelchair accessible toilets and sinks when facilities are renovated. Provide clean, private changing areas when possible (some people need to lie on the floor to dress). Install grab bars in strategic locations in shower, toilet, and sink areas. Place waste receptacles in toilet stalls for the disposal of used catheter supplies.

The National Center on Physical Activity and Disability (NCPAD, 2005) has published a series of AIM FREE manuals (Accessibility Instruments Measuring Fitness and Recreation Environments, http://www.ncpad.org/yourwrites/fact_sheet.php?sheet=481) on swimming pool accessibility for use by consumers and professionals. These questionnaire-based instruments allow the user to self-rate accessibility and self-determine desired changes.

Personnel. Risk management requires appropriate education, attention to responsibilities, and a safety-conscious attitude by all people who work in a swimming pool environment. Everyone should be working toward keeping risks of injury as low as reasonably possible (ALARA)!

At a minimum, coaches must satisfy the USA Swimming safety education requirements. In addition, coaches should be aware of health and safety concerns for individual swimmers. This can be accomplished using a team application/registration form that requests “need to know” information about the swimmer. A blank space will be the predominant response for swimmers who do and do not have disabilities. However, some swimmers may report conditions such as asthma, seizures, etc. When there is a health or safety concern, the coach should ask for more information from the swimmer or parent (e.g., what do the seizures look like, is there anything I can do to help prevent a seizure, what should I do if a seizure happens). Further discussion and collaboration may be needed if the coach is concerned about ability to provide appropriate accommodations. Swimmers with disabilities and their family members can often help generate practical suggestions to promote safe participation.

Coaches and referees have added responsibilities when swimmers with disabilities enter swim meets. Per Article 105 of the USA Swimming rules, the coach or the swimmer should request needed disability accommodations from the referee. Some of these requests facilitate safety, such as personal assistants who can assist with water entry/egress, help the swimmer navigate slippery pool decks, assist with personal care in locker rooms, help to understand meet/safety announcements, special seeding, etc. Safety is further enhanced when concerns are communicated to meet directors, safety marshals, and lifeguards.

The aquatics director and swimming pool staff generally are responsible for safety policies, supervision/lifeguarding, water quality, air quality, and general pool maintenance. Certainly the swimming pool policies should include a comprehensive emergency action plan with provisions that accommodate swimmers, coaches, volunteers, staff members and spectators who have disabilities. It is beyond the scope of this article to suggest how other responsibilities of the aquatics director and staff should be met.

Swimmers with disabilities. Many swimmers with disabilities have no unique health care or safety concerns. Many of the swimmers who do have special needs have learned to independently provide their own care. But there are situations in which a swimmer may need some assistance from another person because of a disability-related problem. Here are some conditions that typically are not addressed in a typical first aid course.

- *Seizures.* Most first aid courses include instruction on response to seizures that occur on dry land – prevent injury, make the person comfortable, do not restrain the person, call 911 or local emergency number, be sensitive and supportive. If a seizure occurs in the water, keep the person's face above water until the seizure has ended, and then move the swimmer to a resting position on the pool deck (a spine board may be necessary for this transfer if the swimmer is not fully alert). The biggest risk associated with seizures that happen in water is swallowing water. This can happen in a few seconds and can lead to death, so supervise closely and implement the emergency action plan without delay.
- *Atlantoaxial instability (AAI).* AAI refers to laxity or looseness of the ligaments between the 1st and 2nd vertebrae, a condition that occurs in some people with Down syndrome or dwarfism. The spinal cord may be injured if a person with AAI forcefully flexes or extends the neck. Special Olympics recommends no butterfly and no diving for persons with AAI. Swimmers with Down syndrome or dwarfism should request an X-ray evaluation from their physicians to determine if they have this problem, and they should notify their coaches if they do have AAI.
- *Poor judgment.* Persons with cognitive disabilities such as mental retardation, severe learning disabilities, autism, or head injury may not understand or follow safety procedures. A buddy or personal assistant can help the swimmer to avoid injuries and respond to emergencies.
- *Vision loss.* One of the most serious risks for swimmers who are blind is concussion from hitting the head at the ends of the pool. This can be prevented by using tappers, namely volunteers who touch the swimmer's shoulder with soft-ended poles as notification of an impending turn or finish. In addition, swimmers may consider using a cloth or plastic bubble wrap inside the swim cap to help prevent head injury. Collisions with other swimmers or lane ropes is a risk which can be minimized by teaching the swimmer to travel in a straight line, assigning fewer swimmers to the lane, and having the blind swimmer wear gloves to prevent abrasions. Swimmers with vision loss may not see hazards such as slippery surfaces or level changes. Similarly, swimmers with vision loss may not see signage with safety information.
- *Hearing loss.* Swimmers who are deaf or hard of hearing may not hear or understand instructions related to safety or other topics. This risk can be minimized by using alternate means of communication, including visual emergency alerts.
- *Cochlear implant.* Some persons who are deaf choose to have cochlear implants. The implant device sends electrical impulses (sound) directly to the cochlea, which in turn sends sound information to the brain. The swimmer must remove the external parts (e.g., microphone, processor) of the implant when swimming, so coaches should use alternate methods of communication when the person is in the water.

- *Diabetes.* In general, swimmers with diabetes need to follow physician's advice with respect to a regimen of exercise, nutrition, and medication to control blood sugar at safe levels, and they should communicate that regimen to their coaches. Serious athletes who engage in frequent, prolonged, or intense training may benefit from the information available from the Diabetes, Exercise and Sports Association (<http://www.diabetes-exercise.org/>).
- *Poor balance.* Slippery and uneven surfaces are especially problematic for swimmers who have vision loss or impaired balance, as well as those who use mobility equipment such as crutches, canes, or walkers. Keep pool decks as uncluttered and dry as possible to help prevent injury.
- *Skin care.* Persons with spinal cord injuries typically lack sensation in the lower body. Therefore they are prone to developing pressure sores (decubitus ulcers) from sitting in one position too long. Skin irritations are also problematic for persons who have amputations (the stump area may become irritated) and those who use braces (brace components may rub against the skin). It should be the swimmer's responsibility to regularly check skin condition. Because open wounds can easily become infected, persons with pressure sores or other open wounds should not swim until the wound is healed. Some swimmers fail to disclose pressure sores or other open wounds because of the likelihood they will not be allowed to swim under those circumstances – coaches should be vigilant about this possibility.
- *Lack of sensation.* Because they typically lack sensation in the lower body, persons with spinal cord injuries may sustain bruises, cuts, and other soft tissue injuries when the feet or legs bump against hard surfaces. To avoid injury, swimmers should wear water shoes when doing dry-land work, when transferring in or out of the pool, and in some cases while swimming.
- *Wheelchair transfer.* Some wheelchair users need assistance transferring from the wheelchair to a swimming pool lift or deck, or from other locations back to the wheelchair. First, ask the person how s/he prefers to be helped. A few general principles include moving the wheelchair as close as possible to the destination, clearing away any clutter, locking the wheels, removing or repositioning armrests and footrests, and involving two or more people in the lift. The lifter should use good body mechanics, keeping the spine as erect as possible, and lifting by extending the legs.
- *Shunts.* Some swimmers with spina bifida, cerebral palsy, and dwarfism may have shunts. A shunt is a narrow-diameter tube that moves excess cerebro-spinal fluid from the brain to the abdomen. Swimmers with shunts should avoid diving, underwater swimming, and blows to the head unless cleared by their physicians. Coaches should report symptoms of shunt malfunction (e.g., nausea/vomiting, sensitivity to light, dizziness, seizures, headache, drowsiness, behavior changes) to the swimmer or parents.
- *Thermoregulation.* Thermoregulation problems refer to irregular body temperatures often experienced by persons with higher-level spinal cord injuries. Swimmers with this problem can lose body heat quickly in cold water or become overheated quickly in warm environments. Swimmers prone to hypothermia should consider using full or partial wetsuits when swimming, as well as warm showers, towels, parkas, and clothing after

exiting the water. Appropriate clothing, fans, and water spray can help cool the swimmer, preventing hyperthermia in warm environments.

- *Sun sensitivity.* Some persons with disability (e.g., albinism) cannot tolerate sun exposure, and others have difficulty applying sunscreen because of limited mobility. These swimmers should consider using “rash shirts” and/or seek help to apply sunscreen.
- *Autonomic dysreflexia and boosting.* Persons with spinal cord injuries above T-6 may suffer negative effects including headache, sweating, high blood pressure, and irregularities in heart rhythms as a result of a painful stimulus below the level of the spinal injury. The noxious stimuli may include pressure sores, urinary tract infection, fracture, tight clothing, and distended bowel or bladder. Autonomic dysreflexia is a life-threatening condition that must be treated immediately, first by removing the painful stimulus and then by seeking medical care. “Boosting” refers to self-induced autonomic dysreflexia for the purpose of increasing blood pressure prior to competition to gain an advantage over other competitors. Boosting is considered to be both unethical and unsafe. The World Anti Doping Agency (WADA) is currently collaborating with the International Paralympic Committee to study this problem.
- *Incontinence.* Swimmers with spinal cord injuries often lack bowel and bladder control. Swimmers who experience these problems should follow their physician prescribed bowel and bladder programs. In general, swimmers with incontinence problems are advised to empty the bowel and bladder before swim practices and meets. It is especially important to empty the bowel because bowel accidents in the pool may pose a serious health risk to other swimmers, and will result in pool closure for a period of time until water quality is restored.

ADA and Safety

The Americans with Disabilities Act (U.S. Department of Justice, 2009) was designed to promote equal opportunities and non-discrimination for persons with disabilities in the broad scope of American life, including places of exercise. But this law excludes “individuals whose participation poses a direct threat to the health or safety of others because of a disability that cannot be corrected by appropriate modifications or aids” (Block, 1995). Such exclusions may only be based upon actual health/safety threats that are documented by individual assessment and objective research data. Furthermore, before a person with a disability is excluded from participation, attempts must be made to reduce or eliminate the risk. In practice it is very difficult to exclude a person from participation because there is very little valid and reliable data about safety related to sports participation by persons with disabilities. In fact, most experts regard swimming as one of the safest forms of physical activity for persons with disabilities.

Insurance Issues

The most common insurance concern is whether personal assistants must be members of USA Swimming. According to John Peterson, President of Risk Management Services, Inc. (the General Manager of United States Sports Insurance Company, a subsidiary of USA Swimming), general liability insurance coverage for USA Swimming members is not affected by the USA Swimming membership status of personal assistants. Meet referees should approve the presence of personal assistants on the deck at competitions and USA Swimming member coaches should approve at swimming practices. Personal assistants are not required to be

members of USA Swimming. The rationale for this decision is that requiring membership could be construed as a form of discrimination against swimmers with disabilities who would, essentially, have higher membership costs if both they and their assistants were required to become members. Personal assistants who are not USA Swimming members are protected by USA Swimming general liability insurance, but do not have the benefit of USA Swimming excess accident insurance. (Please refer to the appropriate insurance policies for specific coverages, conditions, and exclusions.)

Conclusion

USA Swimming clearly has embraced the practice of inclusion in competitive swimming. Appropriate safety and risk management efforts are essential to that successful inclusion. Fortunately, ALARA (risks as low as reasonably achievable) can be attained with a few practical, common sense practices.

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