

ADAPTIVE SPORTS AND EQUIPMENT FOR VETERANS WITH SPINAL CORD INJURIES: COMMUNITY PARTNERSHIPS ARE KEY TO A YEAR-ROUND ADAPTED SPORTS PROGRAMS FOR MILWAUKEE VETERANS

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Abstract

Recreation is important to improve the overall quality of life for those who have disabilities. Adaptive sports are a part of recreation therapy, which allows each individual to experience recreation the way that best fits their lifestyle. Recreation Therapists at the Milwaukee VA Medical Center work directly with veterans with spinal cord injuries to enhance this part of the rehabilitation process. The purpose of this paper is to share the connection between the Milwaukee VA and community partnerships in adaptive sports. Community partnerships provides a much needed bridge from the VA to the veterans' success and regular participation in community-based adaptive sports programs.

Keywords: *adaptive sport; therapeutic recreation; veterans; spinal cord injuries*

Recreation is important to improve the overall quality of life for those who have disabilities. Adaptive sports are a part of recreation therapy, which allows each individual to experience recreation the way that best fits their lifestyle. Recreation Therapists at the Milwaukee VA Medical Center work directly with veterans with spinal cord injuries to enhance this part of the rehabilitation process. The connection between the Milwaukee VA and the community partnerships that we have formed have made this program successful on a wide range of levels for our spinal cord injury veterans. This provides a much needed bridge from the VA to the veterans' success in the community recreation programs for a lifestyle of healthy living and pursuing adapted sports on a regular basis beyond the initial introduction on adapted sports on the spinal cord injury veterans at the Milwaukee VA.

When an individual experiences a spinal cord injury or disease, the connection between the brain and the nerves and tissue can be conflicted. Many different injuries can harm the spinal cor such as a car accident, gunshot wound, debris in an explosion, or any accident that harm to the spinal cord that results in a disability. Some of the diseases that can affect the spinal cord are spinal stenosis, tumors, and

others. Once a spinal cord injury has occurred, many different issues can arise within the body affecting daily function. One can experience limited control over bladder and bowel function, movement, temperature regulation, sensation, and others (Hammond & Burns, 2009).

There are many factors that must be taken into consideration to evaluate each individual's injury level. Spinal cord injuries can take place anywhere on the cord, either high or low. The injury can also be classified as complete or incomplete. A complete spinal cord injury consists of no deliberate movement below the point of injury. An incomplete spinal cord injury is partial damage to the spinal cord, which can be different for each individual related to how much feeling, movement, and strength they will have. With the variety of spinal cord injuries that can take place, each individual still has to take care of their body, whether they use a wheelchair or an assistive walking device. A one of the main things to be aware of is skin care, such as pressure ulcers, sun protection, moisture, and open wounds. Individuals also should be aware of weight gain and nutrition, exercising, and medication.

Community partners play a key role in the success of introducing a veteran with a spinal cord injury to these programs. It is an important role of the recreation therapist to communicate and educate the community partners/adapted sport instructors a general overview of this information when they are working with our spinal cord injured veterans to prevent any complications or injury while they participate in the community programs. The initial step in all of the adapted sports programs does involve medical clearance from the provider prior to participation.

Funding for some of the community partners can come from the sports grants program. The Grants for Adaptive Sports Programs for disabled Veterans and Members of the Armed Forces (ASG Program) provides grant funding to organizations to increase and expand the quantity and quality of adaptive sport activities disabled veterans and members of the Armed Forces have to participate in physical activity within their home communities, as well as more advanced Paralympic and adaptive sport programs at the regional and national levels. Great Lakes Adaptive Sports Association



to participate. The main community partner are Adaptive Adventures and Great Lakes Adaptive Sports Association.

Summer Sports

Kayaking is a sport that individuals use their upper body versus their lower body for strength. It allows our veterans to improve their arm strength, core, and balance. Kayaking is beneficial for the veterans to be able to escape their homes and the city life. It allows them to get out on a lake for fresh air and provides a means of mobility in the open water. To introduce our veterans to kayaking, we begin in the indoor pool at the VA center so they can have 1:1 instruction. Here the veterans practice using adaptive equipment or get the seating modifications set up correctly on a trial run prior getting out into open water on a lake. Since many of our veterans have limited leg mobility, they must work on transferring from their wheelchair to the kayak. This can be difficult at times, but we have different adaptive equipment to help. When the individual cannot transfer independently, we use a tub bench. A tub bench allows the veteran to work their way down to the kayak in height. There are also grip modifications that help an individual hold the paddle with ease such as hand and wrist adaptive equipment which would help a higher level of spinal cord injury with limited grip strength. As with many water sports, outriggers can be used to help steady the individual in their boat. Some of our veterans also like to use a tandem kayak, which can be described as a two-person kayak. This is beneficial for the veteran in multiple ways, because there are two people to help paddle and save energy, there is social interaction with another person, and also increased balance by having a larger vessel. This introductory type session has been done in conjunction with our Team River Runner volunteers in the VA therapy pool coordinated by the recreation therapist.

and Adaptive Adventures do receive funding from the sports grant program to help pay for the cost of the facility, instructors and equipment that are used by our veterans.

Recreation therapy is important for each individual to improve his or her overall quality of life by offering a variety of leisure opportunities and modifications to fit the individual's needs. This is an important part of the program on the Spinal Cord Injury Unit at the Milwaukee VA; to focus on working with our veterans with spinal cord injuries to help the veteran learn new leisure skills or regain the ability to modify or adapt an interest or hobby they used to enjoy prior to the injury. Recreation therapy is provided year round at both the inpatient and outpatient level as part of the rehabilitation process. Adapted sport programs are available year round at the Milwaukee VA for the Spinal Cord Injury veterans.

The main sports we are doing during this summer are kayaking, waterskiing, and hand cycling. We work with our community partners that supply equipment, instructors, and a variety of adaptations for our veterans, and a location





Next, waterskiing, much like kayaking, allows the veterans to escape from their daily lives and enjoy the scenery at a lake. We work with Adaptive Adventures throughout the summer at local lakes to provide our veterans with waterskiing instructors and the adapted equipment. Waterskiing is also a sport that many residents of Wisconsin have participated in in the past or have seen it being done. Waterskiing offers the opportunity for a variety of difficulty levels based on adaptations one uses. This sport can improve arm strength, core strength, and balance to be able to steady the skis on the water. However, veterans with spinal cord injuries use a sit ski. A sit ski is made with a seat on top of two water skis, which allows the veteran to be seated during the activity. When using a sit ski, individuals have to be aware of their balance. Even though the sit ski is meant to improve stability, the individual needs to work on core strength to keep balance. With the sit ski, there are different ways to make the difficulty level higher or lower for the participant. The individual can opt to use outriggers, which are placed on the outside of the skis to add even more stability to the skis to keep them more upright. The sit-ski also has a handle holder that the individual can place the handle. While some veterans have the upper body strength to hold onto the handle, the handle holder allows veterans who do not have the hand and arm strength to hold on to the handle to still be pulled by the boat.

Finally, hand cycling is one of the most popular adapted sports programs that is offered to the veterans at the Milwaukee VA –SCI center. We have many different types of bikes that can be used based on individual’s level of abilities. The cycles can range from a variety of lower recumbent trikes such as Cat trikes, which could be foot peddled, to the Greenspeed, which is a hand crank recumbent. There are also low recumbent hand crank cycles such as the Top End Force series and RX. The uprights are primarily Top End Executor hand cranks with quad shifters that have to 14 speeds with the mountain shifting, and Recumbents. Cat trikes for those who have leg mobility. They can be described as a recumbent seat with steering by the hips and foot pedals. Upright hand cycles are used by those with limited leg function and hand function. The uprights looking like a seat with hand pedals that an individual can use to steer and pedal. A recumbent low hand cycle is one that rides close to the ground that one can lean back on. This bike has hand pedals for steering and pedaling and has foot rests out in front.

Along with all these different bikes, there are different adaptations that one can make to modifications to their bikes to customize individual needs. If an individual has very limited mobility, we use waist, leg, and chest belts to keep stable and safe on the hand cycle or recumbent. We also have more specific adaptations such as arm and leg bands for more protection on the hand cycle. There are different grips one can use to help pedal, such as a foam covered handle, a tri-pin grip or a vertical grip. Not only are there adaptations for handgrips but also for footplates. There are multiple footplate designs that can be attached to best fit the individual. For those with very limited mobility, different styles of headrests are also available for use. Cushions also play a big role in how riders’ comfort levels are met. Correct positioning is of key importance for a safe seating to prevent any skin issues. The recreation therapist on the Spinal Cord Injury unit respects the amount of time our veterans need to ride and how much they can tolerate based on their abilities. We do short rides and long rides. Our short rides stay on the VA campus and go around our unique Lake Wheeler, which is about 2-4 miles. Our long rides take advantage of the Hank Aaron trail that travels in both directions away from the VA and last about 8-10 miles depending on the day. We encourage our veterans to determine how long to ride and with what equipment and adaptations.

Handcycling does not end during the winter; our veterans have the option to use indoor exercisers and attend spin sessions when the weather does not allow the riders to go outside. The spin sessions last about 1 hour and follow a routine of interval-type handcycling to follow with music. An indoor exerciser can be used on an upright handcycle, a recumbent handcycle, and a catricle.



Winter Sports

As one can see, our adaptive sports program at the VA has a wide variety of different sports not only in the summer months, but many more during the winter months. There are many benefits to these adaptive sports, such as social interaction, physical and cognitive skills, and experiences of trying something new. We encourage all our vets to come to our programs weekly to participate in the activities they enjoy the most. We all need recreation in our lives, and adaptive sports are a great way to improve an individual’s quality of life.



The programs offered to our veterans at the Milwaukee Spinal Cord Injury Unit are unique to our area since we have so many strong community partnerships that make adapted sports programs available year round and seasonal. These partnerships are a vital part to our adapted sports programs and our programs would not be possible without their support.

Winter sports that we currently offer our outpatients include curling, sled hockey, and downhill skiing. These programs have specific equipment that make participation available to our veterans with spinal cord injuries. We work with our community partners to get the facility (ice rinks or ski hill) adapted ski instructors and the adapted sports equipment for our veterans.

Wheelchair curling season starts in October and ends in March. We use the Wauwatosa Curling Club ice at the Hart Park Senior Center, and they also provide volunteer instructors. The wheelchairs go right on to the ice and they curl from the wheelchair or power wheelchair after having the chairs' wheels cleaned and cooled off. The process of curling is very much like regular curling, only there is no sweeper in wheelchair curling. The wheelchair curling uses a push-type



stick, which connects with the stone to push the stone over the ice.

Sled Hockey is played much like regular ice hockey with the players using sled hockey sleds and sticks. The sticks have a dual purpose of helping them propel themselves across the ice rink and hitting the hockey puck. We work closely with Great Lakes Adapted Sports Association (GLASA) to provide the equipment and secure the ice time at a local ice rink. The number of players and abilities fluctuates for these informal sessions, but it is always a lot of fun and really popular with our veterans. Players transfer into the sleds and push themselves on the ice with the end of the stick that has jagged edges to grab the ice. The other end of the stick is shaped like a hockey stick for hitting the ice puck. The goal is to create a local sled hockey team in the Milwaukee area that would be for veterans and nonveterans,

Downhill skiing starts in December/January and runs through March, depending on the snow conditions. The skier transfers into a sit ski, which has ski blades attached under the sit ski bucket or seat. There are bi-skis, which have two skis attached to the seat/bucket and mono-skis, which have one ski attached to the seat/bucket. The sit skier also uses short poles with short ski blades attached for steering and balance. A beginner sit skier will be tethered to a ski instructor as he learns how to ski independently. This process of learning the skill can take several years to master complete independence.

Adaptive Adventures and Great Lakes Adaptive Sports Association (GLASA) has been very active with the Milwaukee Spinal Cord injured veterans in providing regular ski clinics. The veterans attended with the help of the recreation therapist to set up dates and provide transportation but as the season progresses the veterans do get more opportunities to attend on their own toward the end of the season as the skills improve and they work together with our community partners to set up ski dates at local ski locations in southeastern Wisconsin.

For more information:

Adaptive Sports. http://www.va.gov/adaptivesports/docs/2014_report_to_congress_web.pdf
Adaptive Sports Grants. http://www.va.gov/adaptivesports/va_grant_program.asp
GLASA-<http://www.glasa.org/>
National Sports Programs for Veterans: <http://www.va.gov/adaptivesports/>
Adaptive Adventures: <http://adaptiveadventures.org/>
Team River Runner: <http://www.teamriverrunner.org/>
Wauwatosa curling club: <http://www.wauwatosacurlingclub.com/>
Kayaking: <http://www.creatingability.com/paddle-adaptations.html#hand>
Handcycling Top End Uprights: <http://www.topendwheelchair.com/OurChairs/Product-Details.aspx?id=12>
Top End Force recumbents: <http://www.topendwheelchair.com/OurChairs/Product-Details.aspx?id=30d>
Greenspeed recumbents: <http://www.greenspeed.com.au/>
Catrikes: <http://www.catrike.com/>

Selected References

Hammond, M. C., & Burns, S. P. (2009). *Yes, you can! A guide to self-care for persons with spinal cord injury* (4th ed.). Washington, D.C.: Paralyzed Veterans of America.

Shaunee Mulhollon received a degree in therapeutic recreation with a minor in communication Studies from University of Wisconsin-La Crosse. Shaunee completed a 16-week recreation therapy internship with the Milwaukee VA in the Spinal Cord Injury unit, whose outpatient programs focus is adaptive sports. Shaunee had first hand experience with adaptive sports, such as hand cycling, kayaking, golf, tennis, and many more and the equipment needed for each sport. Shaunee recently obtained her certification to become a Certified Therapeutic Recreation Specialist (CTRS), and is currently working with the geriatric population.

Joyce Casey has been a recreation therapist for more than 30 years and graduated from the University of Iowa. She currently works on a Spinal Cord Injury Unit at the Milwaukee VA medical center. The favorite part of her job is helping veterans with spinal cord injuries find a new life through adapted sports.

