Each summer, over 800 Veterans from across the United States compete in National Veterans Wheelchair Games (NVWG). The event is in a new location each year and is co-hosted by the Department of Veteran’s Affairs and the Paralyzed Veterans of America. The purpose of the event is to encourage Veterans with spinal cord injuries, multiple sclerosis, amputations and other neurological injuries to live more active and healthy lives through wheelchair sports and recreation. For more information on the wheelchair games visit http://wheelchairgames.org/

This year the games were in Cincinnati, Ohio from July 16-23, 2017. During the week, Veterans compete in up to 5 of the 19 wheelchair sports events: Air Pistol, Air Rifle, Archery, Basketball, Bocca, Bowling, Cycling, Field Events, Motor Rally, Nine Ball, Power Lifting, Power Slalom, Quad Rugby, Slalom, Softball, Swimming, Table Tennis, Track and Trap shooting.

Veterans come from all over Virginia, North Carolina, West Virginia, DC and Maryland to represent the Richmond VAMC and the Mid Atlantic PVA. This year Team Mid-Atlantic had one of the largest teams that attended the games, with 36 Veteran Athletes that competed in 134 separate events. The results were amazing and the team returned with 96 medals; 49 gold, 24 silver and 23 bronze.

Athletes use a variety of adaptive sports equipment for each sport. This can range anywhere from a specialty sports wheelchair to adaptations made to equipment for assisted grip. Most adaptations are personalized for each individual athlete to maximize their performance.
Adaptive Sports Receives a Donation

On May 6th, 2017 a Richmond-based plumbing company, VAMAC Inc. held the 3rd annual Operation Rise and Conquer Ride. The event hosted approximately 282 riders, starting from the Historic Winn’s Baptist Church in Hanover, VA. The amount of participants taking place in the ride has more than double since last year, raising over $40,000 for the McGuire VAMC Adaptive Sports program.

The adaptive sports program uses this money to buy new equipment, including specialized hand cycles and other adaptive cycles for Veterans with various disabilities to participate in the adaptive sports cycling program. The money also helps to put on other adaptive sports programs throughout the year including archery, bowling, nine ball, and air rifle. With the funds, the program hopes to start an adaptive yoga program this year. At the conclusion of this year’s ride, VAMAC Inc. announced that next year’s ride will take place on May 5th, 2018 with all proceeds again going to the adaptive sports program at McGuire VAMC.

FY17 AT EDUCATIONAL OPPORTUNITIES WITH EES

Program Description:

This live – meeting program is designed for Rehabilitation Services physicians and rehabilitation clinicians to address the knowledge gap in providing assistive technology that addresses current health care requirements of Veterans with specific rehabilitative needs. This course will cover many areas of disability including Polytrauma, Visual impairments, Physical limitations, Cognitive and communication deficits that may limit Activities of Daily Living. There are 5 Assistive Technology (AT) labs located at the Polytrauma Rehabilitation Centers; however, this training would expand that knowledge and skills of providers beyond those 5 AT centers. The training will assist in increasing Veterans’ level of function, independence and safety while providing consistency and care across the VHA system.

Audience: Health care professionals including physicians, speech-language pathologists, occupational therapists and other clinical staff such as physical therapists, recreation therapists, blind rehabilitation specialists and kinesiotherapists.

Topics:

♦ September 8 CANCELLED
♦ October 13(Second Friday) - Summary of AT activities in VA including uSPEQ, Standardization of practice, Starting AT Lab, CARF standards
♦ November 3 - Adaptive Hearing Devices & Personal Story
♦ December 1 - Mobile phone apps

PM&R ASSISTIVE TECHNOLOGY
Veteran’s Story… Edward Boehme

The Assistive Technology Program recently had the opportunity to assist Veteran Edward Boehme and Spinal Cord Injury Occupational Therapist Jenna Hanson using 3D printing in a unique and exciting application. Mr. Boehme served as a Navy Communication Officer for a five ship amphibious squadron in the 1st Gulf War. He has a cervical Spinal Cord Injury resulting in Tetraplegia. He uses resting hand splints to help keep his hands in a relaxed state and to help prevent contraction. Ms. Hanson fabricates these splints for Mr. Boehme multiple times a year because they wear out and break frequently. This is a time consuming process for both the Veteran and therapist. Without the use of these orthoses Mr. Boehme’s hands and fingers contract causing pain and barriers to functional usage.

Ms. Hanson reached out to the Assistive Technology Rehabilitation Engineering team to help reinforce these splints. While this was possible using traditional fabrication techniques, 3D scanning and printing was utilized to create custom and easily reproducible hand splints. To create new splints the current splints were 3D scanned, strengthened and 3D printed. While using these new 3D printed splints Mr. Boehme reports liking the strength and appearance of these orthoses compared to traditional ones. Also, these splints have built in features, like strap loops, that are more common in off the shelf products. If Mr. Boehme requires changes to these splints, or if they break, new splints can be 3D printed based on the original design. This saves time for the Veteran and therapist.

Mr. Boehme feels these splints have improved his quality of life. Through the collaboration of Occupational Therapy and Assistive Technology a personalized, refined, and easily reproducible solution has been provided to this Veteran.
For patients with limited or no arm movement, using a computer can be difficult without assistive technologies. Some people with good, consistent voice strength and diction can use dictation software with their computers, such as Dragon Naturally Speaking or built-in Windows speech recognition, which come with commands for selecting, typing, and navigating a computer. Others can utilize a reflective dot which is tracked by a camera to translate head movement into mouse movement on the computer, and typically mouse click is achieved via dwell click or an external switch. And for those with no head movement, eye tracking cameras can allow a user to look at something to move the mouse to that spot.

A new product called SmyleMouse is the newest tool for computer access. It is a software with a simple concept: a camera (typically the webcam built into most laptops these days) allows SmyleMouse to track a user’s face and move the mouse based on face movement, sans reflective dot. The coolest feature is showcased in the product’s name; to do mouse click, the user smiles once he/she is hovering over the target. The software will detect the smile using its facial analytics and initiate click. Without the need for an external switch, a specialized camera, or reflective dots, SmyleMouse makes head tracking much simpler for the right user.

While trialing SmyleMouse with a patient, I explored how the settings in SmyleMouse can be changed to maximize success. There is only a 10 second calibration that automatically occurs at software start-up. The sensitivity of the software to head movement can be adjusted, with an increase reducing the amount of movement necessary but making it more difficult to zone in on a small spot, and a decrease doing the opposite. You can also change the stickiness of the mouse, that is, SmyleMouse will only move the mouse in response to a significant head movement, which reduces the concern of movement artifact working against the user’s intention. In that same vein, you can adjust how the mouse “parks” — when it decides to stay put in response to inaction from the user. You can even set it so that the mouse does not move unless you are smiling to ensure purposeful movement. SmyleMouse offers a dwell click option in case the smile is too strenuous or simply not preferred, and it comes with a sidebar for different clicking options like left and right click, double click, and click-and-drag. There are a lot of ways to optimize SmyleMouse for each user.

Currently SmyleMouse has a 14-day free trial, and a license costs $499, half the price of a HeadMouse Nano. While SmyleMouse may not be for everyone, it is a neat step towards streamlining computer access for veterans who might otherwise rely on hardware, reflective markers, and external switches that must be set up by caregivers.