

# PM&R Assistive Technology Programs

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Spring 2016

*Congratulations!*

The Richmond Assistive Technology Program successfully completed its CARF survey

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AT Newsletter Edited by:  
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## RESNA ATP Preparation Online Course

The Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) covers the broad area of assistive devices, with their goal to maximize the health and well-being of people with disabilities through technology. In addition to distributing relevant information across the globe to practitioners and consumers, RESNA offers experienced educators, clinicians, and assistive technology suppliers the opportunity to pursue the ATP (Assistive Technology Professional) credential. With the appropriate education and experience prerequisites, this credential is earned by passing a 200-item multiple-choice test, covering areas such as augmentative and alternative communication, accessible transportation, cognitive aids, computer access, environmental aids, recreation and leisure (i.e. adaptive sports), sensory aids, and mobility aids. Upon passing the exam, individuals are recognized for having the broad knowledge and foundation needed to help clients choose the technologies that best fits their needs.

Based on experiences and feedback from VA clinicians, University of Pittsburgh's Department of Rehabilitation Science and Technology Continuing Education (RSTCE) developed an intensive and guided training program that combines both online and in-person resources known as the Veterans Administration Assistive Technology Training (VAATT). The VAATT is designed for any person who needs a fundamental yet comprehensive understanding of the field of assistive technology. This includes but is not limited to rehabilitation clinicians (occupational, physical, or recreational therapist and speech language pathologist), other healthcare personnel (physician and nurses), researchers, engineers, and prosthetic representatives. The course also assists people who need a review of the fundamentals as part of their preparation for the RESNA Assistive Technology Professional certification. The certificate is built upon RSTCE's comprehensive curricula on rehabilitation technology. The VAATT course takes about 8 months to

complete and includes online learning modules with recorded lectures, online group collaboration, and monthly recitations that requires about a 2-4 hour commitment per month on the part of the trainee. The course applies case studies, evidence-based practice, and best-practice guidelines throughout with specific assistive technology modules. Participants can view the online lectures on their own time, while participating in online study groups. There are monthly recitations via conference call for follow-up questions and case study work. The course concludes with an intensive in-person 1.5 day "Deep Dive" workshop to gain hands-on experience with the technologies presented while interacting with experts, vendors, and assistive technology consumers. There currently is no charge for VA personnel with the anticipation start date of September 1, 2016 for the next class. There is an online application that each trainee must fill out before enrolling into the course as instructors like to keep the class size to about 30-35 participants.

Past participants have described the course citing: "instructors were knowledgeable on the topics they discussed and brought first hand insight to the materials presented"; "I am proud to let you know that I have passed the exam. I believe that your course did help in my success with the test."; and "Mark's "test taking tips" really helped! His voice with his tips kept going through my head while I was taking the test and wanted to over-analyze a question!" The VAATT launched in 2013 and 57 VA clinicians have successfully passed and received their ATP certification to date by using the online preparation course with more to come as examinations are being scheduled.

For further information about the VAATT course and how to apply please contact Alexandria Miles at [amm403@pitt.edu](mailto:amm403@pitt.edu).

### AT Lab Highlights...Seattle



The Seattle AT Program has been continuing our collaboration with various clinics including our local MS and ALS interdisciplinary teams. We have started reaching veterans via Clinical Video Telehealth (CVT to home), and have increased our ecological validity in evals and interventions by meeting with the veteran in their home environment. We've been

training an Occupational Therapy student, Alyssa Begovic, in her professional rotation. Alyssa is working on building a database for frequently ordered AT devices, the device review for the Surface, and establishing our data entry of FMA scores into the national database and collecting the data. We are planning an AT educational Fair for the rehab disciplines

and rehab nursing at the VA Puget Sound's American Lake campus (Tacoma, WA).

### AT Lab Highlights...Eastern Colorado Health Care System



The Eastern Colorado Healthcare System Assistive Technology/Wheelchair Program (AT/WC) is set to host the third annual AT Deep Dive in Denver, May 12-13, 2016 in collaboration with the University of Pittsburgh RSTCE. There are currently 25 participants representing various VA's from across the country, along with local and national vendors and community partners.

The AT/WC program recently received a three year CARF accreditation as part of a blended survey making this the fourth CARF accreditation over the past 12 years that AT/WC has been a part of at this facility. As a result of increased collaboration across the service line, all CARF teams will be transitioning to a central location and sharing resources

amongst the following: AT/WC, Brain Injury/Polytrauma, SCI-D, Visual Impairment, Comprehensive Inpatient Rehabilitation, Amputee and Pain Programs. This allows for collaboration of care, centralized clinics reducing Veteran travel, increased communication and increased access to clinics.

### AT Lab Highlights...Palo Alto



Assistive Technology Staff Support Survey Success for the Broader VA Palo Alto Polytrauma System of Care.

The VA Palo Alto Polytrauma System Care began this Spring with a CARF international reaccreditation survey for the inpatient, residential, and outpatient rehabilitation programs. At the end of the 3 day survey, no recommendations were noted by the external survey team. This outcome indicates complete conformance with the quality standards set by CARF International,

and such an achievement is accomplished by only 3 percent of CARF surveys worldwide.

In addition to meeting all CARF quality program standards, 22 strengths were identified in the Final VA Palo Alto Polytrauma 2016 CARF survey report. Among the strengths, "Access to State of the Art assistive technology to provide people of all levels opportunities" was highlighted.

On the adaptive sporting front, physical therapist Debbie Pitsch participated in a collaborative amputee adaptive sporting clinic; this was a joint effort between the Regional Amputee Center, Prosthetic Solutions and our AT Center. This took place in Redwood City, CA and was attended by approximately 30 participants, veterans and non-veterans, from all over Northern California (see photo on page 4).

(cont. page 3)

**Adaptive Sporting News**

## AT Lab Highlights...Tampa

### OUTREACH:

- ◆ Presented to the Technical Career Field Prosthetics Representative Boot Camp, a Trainee program for future Chiefs of Prosthetics to educate to the services and types of equipment utilized within the AT Program
- ◆ Presented at the Assistive Technology Industry Association (ATIA) in Orlando February 2016  
Completed a mini Deep Dive with the Gainesville and Lake City VA Speech Pathology Department (6 staff members) with a focus on augmentative-alternative communication and access for pALS (see picture on right)
- ◆ Presented at the Association of Veterans Affairs Speech Language Pathologists (AVASLP) Conference in Austin April 2016

### PROFESSIONAL DEVELOPMENT

- ◆ Participated in a staff lunch n learn focused on apps for rehab
- ◆ Coordinated vendor demonstrations for the rehab department to include Shelton Technologies, Tobii-Dynavox, LC Technologies and MatchWare
- ◆ Coordinated staff viewing of DCoE Grand Rounds relating to Technology for Students with TBI

### TELEHEALTH

- ◆ Speech Pathology CVT to Home encounters to date for this fiscal year approximate 140.
- ◆ Occupational Therapy/Assistive Technology CVT-Hm encounters to date approximate 12.
- ◆ Driver Training program now has CVT clinic for passenger equipment needs in VISN 8
- ◆ We have completed 5 inter-facility VISN 8 E-consults and 2 E-consults in-house

- ◆ Continually fields emails and phone calls from clinicians nationwide re: various AT questions and concerns

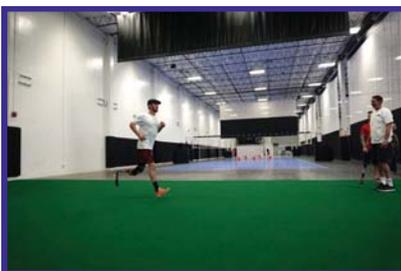
### CURRENT PROJECTS AND PERFORMANCE IMPROVEMENT

- ◆ Creation of comprehensive library of short video tutorials on various AT topics available for patient, staff and caregiver education
- ◆ Weekly team huddles as part of the Lean Six Sigma (LSS) model for improvement



## AT Lab Highlights...Palo Alto, cont.

(cont.)



From Amputee Adaptive Sporting Clinic, Redwood City, CA

VA Palo Alto AT Center Hosts Annual Tour of Stanford Engineering Assistive Technology Class-

In February, the VA Palo Alto AT Center hosted and toured the Stanford Engineering Department's Assistive Technology class. This annual tour includes staff presentation and hands on demonstration of AT devices across

domains including AAC, ECD, EADLs and adaptive sporting. This year, AT Physical Therapist Debbie Pitsch and AT Program Director Jonathan Sills hosted approximately 40 engineering students and community members.

### Palo Alto and Tampa AT staff present together at National Conference:

AT Speech Pathologist Evi Klein recently co-presented with Tampa VA's Telina Caudill at the national conference of VA Speech Pathologists in Austin Texas, including case presentations and a mini deep dive for hands on training on augmentative/alternative communication devices. Palo Alto AT Center has also begun to facilitate a monthly electronic cognitive device support group for new users of technology to help facilitate integration of these devices to support cognitive function. The fo

cus is not only on learning new and available features such as apps and updates in operating systems but in providing peer support within the group.

### Expanding AT Training for Providers:

In September of 2015, the VA Palo Alto sponsored a 2 day "Fundamentals of Assistive Technology" training led by Rehabilitation Engineering Society of North America (RESNA) staff. During the training, 27 VA Palo Alto clinician attendees were provided with information that supported their further development of Assistive Technology core competencies. Beyond the provision of continuing education for staff, this RESNA approved training also helps to further supports an expanded pool of therapy providers to become Assistive Technology Professional (ATP) certified in the future.

## AT Lab Highlights...Richmond



The Richmond Assistive Technology Program received a full three year reaccreditation from CARF International.

### AT Program Collaborates with Engineering Programs:

- Established a local Educational Affiliation with Virginia Commonwealth University Biomedical Engineering Department and took our first Student groups this Spring.
- Collaborated with Norwich University's Engineering students in their senior capstone design course.
- Presented at the University of Virginia's joint Biomedical and Architecture Engineering Course about Prosthetics and Assistive Technology

### AT Team Welcomes a New Team Member:



Seth Hills joined the Assistive Technology Team on March 7, 2016 as an additional Rehabilitation Engineer. He will be splitting his time with the AT Program and the PM&R/VCU Gait Research Lab.

### AT Outreach:

- Hosted Assistive Technology Booth at the RVA MakerFest 2015
- Presented at the Essential Tremor 7th Annual Reasons for Hope Seminar
- Presented at HBPC Nursing Skills Education Day with Hands-On AT Work stations
- Completed our 1st CVT to Home with Rehab Engineering

**Congratulations to Melissa Oliver** on receiving National Recognition at the 2016 AOTA Conference in Chicago for her leadership in the field of Occupational Therapy.



## AT Lab Highlights...Minneapolis

### Minneapolis VA collaborates with Minnesota Brian Injury Alliance on 31st Annual conference

An annual highlight for local clinicians treating patients with TBI and Stroke is the annual conference sponsored by the Minnesota Brian Injury Alliance (MN-BIA). Staff at the Minneapolis VA played a large role in this year's conference. Speech Pathology Department Head, Don McLennan, served on the conference planning committee and presentations were provided by VA clinicians:

- Effects of Lifetime Case Management in Survivors of Moderate to Severe Brain Injury: Lessons from the Minneapolis VA Brain Injury Wellness Program  
Diane Mortimer MD, MSN; Shawn McLaughlin, PT, CKTP; Tamara

Paulson, MSW, LICSW

- Text-to-Speech (TTS) Reading Technologies from No-Cost to Top Dollar  
Brian Fay, PhD, ATP/SMS, RET; David Schaffer, MS, CCC-SLP
- A Whole Health Approach to Transitional Rehabilitation  
Nancy Hildreth, MS, OTR/L; Hillari Olson, DPT; Aubrey White, MS, CCC-SLP

### Minneapolis SCI/D Center and AT Program host ALS Association Consortium

The Minneapolis VA SCI/D and AT Program will host a presentation on high-tech AAC options for individuals with ALS at an upcoming consortium meeting on Friday, May 20, 2016. Beau Bedore and Brian Fay will provide demonstrations and clinical

examples of apps for mobile devices, voice banking, message banking, and programming page sets using the Communicator AAC software. Tobii-Dynavox has also agreed to loan eye-gaze controlled devices for participants to trial.

### Minneapolis VA Sponsors Engineering Design Project: Guided Access for Users of Wheelchair Van Ramps

Kristin Hanowski, DPT, ATP at the Minneapolis VA SCI/D Center provides specialized wheelchair prescription and training for veterans with ALS and advanced MS. While working with these veterans, Kristin noticed many users of power mobility and ramp equipped vans had difficulty driving into the van and positioning their wheelchair to lock down securely.

(cont. page 5)

## AT Lab Highlights...Minneapolis

(cont.)

This is especially true in the cold Minnesota winter! To investigate a solution for this concern, Kristin consulted with Brian Fay, PhD, ATP/SMS, RET. While both Kristin and Brian had ideas for resolving this concern, they opted to sponsor an engineering senior design team through the University of Minnesota – Department of Mechanical Engineering.



Starting in January 2016, Brian and Kristin began meeting with a group of four students including Brian Amundson, Katherine Hauwiler, Dylan Heise, and Jonathan Lundquist. The students learned that due to the dimensions of vans and wheelchairs, the difference in width of the ramp/lift and wheelchair is 50 – 100 mm (2 – 4”); Not much error when loading/offloading. Once inside the van, the user can encounter difficulty lining up the wheelchair to interface with

a lockdown system such as the EZ Lock.

The students met with veterans to better understand their concerns. The goal of the project was further focused on providing a reliable method to position the wheelchair prior to

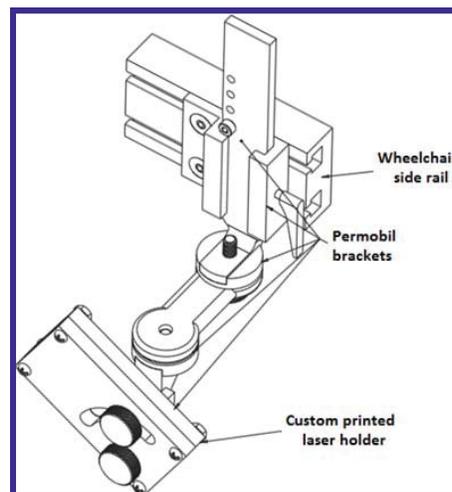


while entering the lockdown mechanism. Various designs were considered including use of ultrasound emitters/receivers, laser guidance and a track system. In the end, the design focused on maintaining a durable, easy to attach and use device that was not overly expensive. The laser

guidance concept was further developed. The proposed design is pictured below. It uses off the shelf brackets to attach to the wheelchair’s seating side rail. The laser housing is a 3D printed bracket and the laser is available through Amazon.com. The device can be tucked under the

wheelchair when not in use and easily spun out when needed. The aim of the laser can be directed down at the van floor or

upward at the van roof. Guidance is provided by applying a 1” wide tape either to the floor or roof. The user must maintain the trajectory of the laser on the tape in order to properly line up the wheelchair to enter the lockdown mechanism. Initial trials with patients yielded positive reviews.



## Connected Care Corner

In 2015, Rehabilitation and Prosthetics Services was awarded funding by the Office of Rehabilitation and Prosthetics Services to develop a standardized Home Assessment protocol utilizing telehealth technology. A secondary goal was to test 3 different telehealth technologies including Jabber Software, Transportable Exam Station (TES), and CVT Patient Tablets. The initial pilot was completed by OT, PT, and Speech Pathology staff at VA Central Iowa in Des Moines, Iowa and housed under the Geriatrics and Extended Care Service with patients enrolled in the Hospital Based Home Care Specialty PACT program.

The results of the pilot are presented during two – 1 hour sessions and recorded sessions are located at <http://www.rstce.pitt.edu/varha/>. The background regarding the pilot and the initial business practice and review of telehealth technology is covered in Part I and the steps for a home assessment are covered in Part II. The project includes a model for improved identification and selection of prosthetic items for patient safety and function in the home by rehabilitation professionals.

This project highlights the importance of utilizing telehealth technology to obtain a view from the veteran's perspective rather than selecting equipment from the clinical setting. In addition, the program highlighted the need to return to the veteran's home to assure the devices issued were appropriately utilized and managed. Often in a busy clinical setting, a device may be issued to a veteran in a rural setting and the follow-up is lacking. However, with current telehealth technology reassessment and follow-up in the home is a reality.

Veteran and Spouse feedback on Rural Health appointments shows increased customer satisfaction:

"I can't believe that I just seen my doctor yesterday and you are already here the next day to take a look at what I need for my bathroom. I need this stuff to get in and out of my shower."

"It is so great that you can come into my home to take care of my husband because it is so hard to get him in and out of the car....."

The interdisciplinary rehabilitation team works under the overall programming of VA Central Iowa's Home Base Primary Care Specialty PACT. The team includes: Physical Therapists, Occupational Therapists, Telehealth Coordinators, and Speech Pathologists embedded within our Home Base Primary Care Specialty PACT. Additional technical advice came from VACO Leads in Physical, Occupational, and Speech Therapy. The providers then collaborated with the Telehealth Medical Support Assistant (MSA) for optimal scheduling to include the Veteran's availability as well as travel time to and from the Veteran's home to ensure minimal to no Overtime costs for the facility. The Rural Health Telehealth Clinical Technicians (TCTs) worked in collaboration with the Facility Telehealth Coordinator (FTC) and Nurse Manager (NM) to arrange travel and home visits. Under the direction of the FTC and NM, the TCTs were trained on the use of essential Telehealth equipment needed to complete the visits. The FTC issued the tablets while providing training to the TCTs.

### Context (1 paragraph)

New and current process allows for utilization of technology such as TES units, tablets, CVT to home, and future technologies. This process has allowed for savings of drive time yet ensuring the right care at the right time. This process will allow for other programs such as Hospice/Palliative, GeriPACT, Spinal Cord Injury, and many others to follow suite.

### Practice description (1-2 paragraphs)

Occupational Therapy Home Safety Evaluations are now scheduled within 2-3 days Veterans are seen within 2 weeks and photographic images are obtained by the Rural Health TCTs

under the direct and live guidance of the trained therapist. Real time communication via Video maximizes the opportunities with every visit. Education is provided to the Veteran in their home.

Physical Therapy is now able to see Veteran's in their homes for post-surgical therapy sessions, home exercise instruction, and follow ups all across our service area. Speech Therapy is now able to provide Voice therapy with the expansion of two methods provided by Telehealth. The therapy may take place with the Rural Health TCT or with tablet capability.

### Replicability

In the 3rd and 4th QTR FY 15- 238 Rural Veterans were served between the assigned staff. The number of rural encounters equaled 1143, of which 521 were done via Telehealth. This is a 30% increase in total visits and a 55% increase in Telehealth visits from 1st/2nd QTR to 3rd/4th QTR FY 15.

The Telehealth encounters saved an average of 57 miles per visit. This translates into 29,697 miles saved for our clinicians as well as a costs savings of \$17,075 in travel reimbursement.

The team has presented on National training calls in March 2016. The recorded sessions will be available April 8<sup>th</sup>, 2016 at: <http://www.rstce.pitt.edu/varha/> In addition, the information was shared with the British National Health Service in collaboration with VISN 23 in February 2016.

### Recognition

Mark Havran, Pamela South, Kirsten Johnson, Donald Hayes, Kristen Ganfield, Joel Kennedy, Amy Ballou, Whitney Welp, Jamie Flatness, Roxanne McGee, Bobbi Karr, Ann Touney, Jennifer Hagerty, Jeremy Putzier, Nan Musson, and Deb Voydetich.

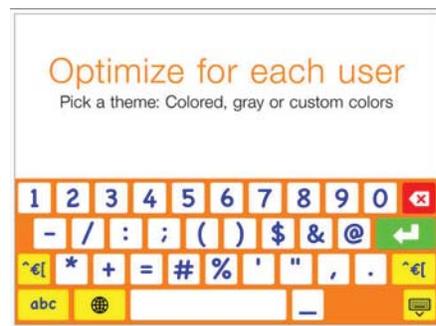
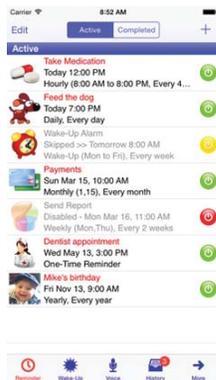
# “TECH” IT OUT!

By: Telina Caudill, MS, CCC-SLP, ATP

# ATiA 2016

## Apps

- ◆ ABC Magnetic Alphabet Lite by Dot Next (free): Virtual refrigerator magnets. Anagram and Copy Therapy/Copy and Recall Therapy
- ◆ iBrainstorm by Universal Mind (free): Whiteboard that works with multiple iPads (group activities) to record ideas and then “fling” to another iPad
- ◆ Nutshell by Prezi Inc (free): Take 3 photos, add captions and stitch together for a quick video. Fun way to teach task sequences
- ◆ Newsela by Newsela (free): Articles can be adjusted to specific reading levels, take quizzes and see progress
- ◆ Pop Flux by NullspaceGarage (free; not currently available in US store but still neat!): Turns your iPad into an augmented reality device to virtually pop bubbles
- ◆ Aida reminder by Sergio Licea (\$0.99): Easy reminder app with customized snoozes, pre-alarms and post-alarms. Incorporate photos and voice recordings for playback.
- ◆ Claro Scanpen by Claro Software Limited (\$6.99): OCR; Take a photo of text and hear it read aloud to you
- ◆ Focus by Laser Focused (\$7.99): Pomodoro timer and task manager; works with Apple Watch
- ◆ Keeble by Assistive Ware (\$19.99): accessible iOS keyboard for vision and fine motor impairments
- ◆ Proloquo2Go and Proloquo4Text by AssistiveWare Updates: Compatible with MyOwn Voice Acapela and Apple Watch



## Products

- ◆ **Access**
  - ◆ Tecla: Cloud-connected for control of multiple personal devices (environmental and smart home control). Hands-free access compatible with all switches.
  - ◆ Smyle Mouse: Hands-free mouse control through small head motions and facial expressions
  - ◆ Boomer Foot Mouse: Bluetooth wireless for hands-free access
  - ◆ Myo armband: Gesture and motion control phone and computer, custom calibration
  - ◆ Moto Hint: Bluetooth wearable; doesn't require a touch to connect, voice control, connects with Google Now for home automation
  - ◆ Bragi dual headphones: wireless smart earphones; tracks activity duration, heartrate and steps
- ◆ **Cognition**
  - ◆ Notetalker: Record audio, images and bookmarks on the app then transfer to your computer to incorporate slides and notes. Audio transcription available for a fee.
  - ◆ MindView: mind mapping software, transfers to Word and PowerPoint, , automatic citation and bibliography generation
  - ◆ Wise by AssistiveWare (\$59.99): Accessible word processor on the Mac App Store
- ◆ **Communication**
  - ◆ My Own Voice by Acapela Group (free on test page): speech synthesis voice banking program available in 10 languages
  - ◆ EyeSpeak by LusoVu: eyegaze via a pair of glasses with a micro camera displays a virtual keyboard on the lenses
  - ◆ SymWriter 2 and In Print 2 by Widgit: create symbol documents and printed materials



**When:** 1st Friday of the month

**Time:** 1pm EST



## Assistive Technology Program Mission

To enhance the ability of Veterans and Active Duty members with disabilities to fulfill life goals through the coordination and provision of appropriate interdisciplinary assistive technology services.

To serve as an expert resource to support the application of assistive technology within the VA health care system

### “Tech It Out,” cont.

#### ◆ Sensory

- ◆ Beamz: Accessible music making, sensory stimulation and cause-effect
- ◆ Orcam: Smart camera mounted on eyeglass frames reads print aloud, announces faces upon recognition, identifies money, etc.
- ◆ ReadSpeaker and TextAid: text to speech, reading, writing and studying solution
- ◆ C-Pen Reader Pen: text to speech, digital highlighter and talking dictionary

#### Resources

- ◆ ALS of Michigan
- ◆ Eyegaze evaluation rating scales and questionnaires

## FY16 AT EDUCATIONAL OPPORTUNITIES WITH EES

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 cross 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:

- ◆ May 6, 2016—Wheeled Mobility’s Best Practices
- ◆ June 3, 2016—Executive Functioning
- ◆ July 1, 2016—Mounting Options for various devices
- ◆ August 5, 2016—Cognitive Applications
- ◆ September 2, 2016—Problem Solving and Technology Solutions for Blindness and Comorbid Conditions
- ◆ October 7, 2016—Adaptive Sports Options for recreation activities
- ◆ November 4, 2016—TBD
- ◆ December 2, 2016—Blind Rehabilitation Technology for Wayfinding for Vision Impairments