



CommunicATor

Winter 2010

601 East 18th Ave.
Denver, Co 80203
303-315-1280
assistivetechologypartners.org

Assistive Technology Partners envisions a world where all persons with cognitive, sensory and/or physical disabilities are engaged in life at home, school, work and play, without barriers and without boundaries.

Robots Promote Social Interaction

Toy robots were among the most popular gifts this holiday season and for good reason. These toys often come equipped with a camera and or sensors for touch and sound which provide interactivity. It's this interactive ability that puts robots so high on the "must have" list each year. Tickle Me Elmo, Lego Mindstorm and this season's Zhu Zhu Hamsters are but a few examples of robotics that have reached pop star status with young children.

What if the same interactive properties in off-the-shelf robotics could be used to provide toddlers with significant communication and movement disabilities similar types of interactions? What if these robots could use sensors in the environment to capture movement and sounds from these children and reinforce them in a play setting? What if parents and care providers could view a record of movements and sounds produced by the child and documented by the robot? Finally, what if the robot could use sensors in the environment to actually initiate play with the child?

These are just a few of the questions being investigated by the Rehabilitation Engineering Research Center for the

Advancement of Cognitive Technologies' (RERC-ACT) social robotics project. The development



team will be modifying off-the-shelf robotics kits and pairing those with commonly available sensors to design inexpensive robots capable of sensing, responding

to, and initiating specific movements and sounds in very young children with significant disabilities. The 3-year project will be followed by a pilot feasibility study to document performance of the robotics prototypes.

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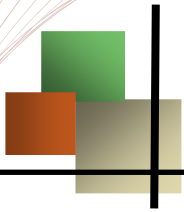
Assistive Technology Partners' Nighttime Positioning Clinical Service

Nighttime positioning refers to the *specific therapeutic positioning of a person's body during sleep*, and it can be a vital component in the overall postural management, sleep quality, and care of children with severe physical disabilities. For example, a child and adults with severe Spastic Quadriplegic Cerebral Palsy may have a difficult time sleeping due to abnormal movement and postural instability, or difficulties with breathing, swallowing or digestion.

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This not only compromises health and safety during the night, but it can also lead to poor sleep quality and duration – for both the child with a disability and their caregiver. Additionally, many children with neuromuscular impairments sleep in asymmetrical postures which may promote the development of joint contractures or deformities such as scoliosis and hip dislocation. Through the **Assistive Technology Partners (ATP) Nighttime Positioning Clinical Service**, a physical therapist evaluates the individual’s problems and needs related to nighttime positioning, determines an appropriate posture and position for sleep, and recommends specific positioning devices to maintain the recommended position throughout the night.

Potential Outcomes of Nighttime Positioning Intervention:



Typical destructive nighttime lying posture; asymmetry places him at risk of hip and spine problems



Improved alignment with nighttime positioning intervention utilizing specialized positioning mattress

Nighttime positioning intervention, through the use of positioning wedges, bolsters or mattress systems, can assist children and adults with severe neuromuscular impairment to maintain a stable, symmetrical and comfortable sleeping position throughout the

night in order to:

- *Promote optimum health and safety during sleep by maintaining positions which allow for safe swallowing and optimal respiration.* Basic physiological functions such as breathing, swallowing and digestion can be affected by body position, body posture and abnormal movements.
- *Prevent or lessen the development of orthopedic deformities by maintaining symmetrical joint alignment during nighttime hours.* Sleeping 8-12 hours/night in asymmetrical “destructive postures” may increase the risk of developing scoliosis, rib cage deformity, hip dislocation and other joint contractures. Nighttime provides a good opportunity to spend many hours in a symmetrical posture, because a person is at rest and not performing functional tasks
- *Improve the quality and duration of sleep by increasing comfort and stability, and by reducing the frequency of disruptive caregiving events.* Restorative sleep may be critical for individuals with chronic disabilities in order to help repair soft tissue trauma, to optimize immune system functioning; to promote growth in children, and to maximize cognitive and physical performance during the day.

What kind of equipment is available to help with nighttime positioning?

Equipment options include simple, readily available items such as pillows and foam positioning bolsters or wedges, as well as more expensive mattress systems. The disadvantage of using pillows and foam wedges is that they often do not stay in place, especially when being used with an individual with spasticity or uncontrolled movement patterns. However, these low cost solutions may be sufficient for someone with low muscle tone, minimal movement or paralysis. For more precise and stable positioning, there are a few adjustable mattress systems on the market that are specifically designed to provide body positioning during sleep.

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How do I know what type of equipment will help?

It is highly recommended that an individual receive an evaluation by an experienced physical or occupational therapist prior to the recommendation or purchase of equipment for nighttime positioning. During this evaluation, the individual's specific nighttime problems and goals should be identified, and from this, a determination made as to which body position, or orientation (such as supine, elevated supine, sidelying or prone) is the most therapeutic and safe for the individual. Depending on the individual's physical presentation (body dimensions, joint range of motion, movement, muscle tone), the therapist can then help the team determine (sometimes by trial) the most appropriate equipment intervention.



Improved alignment with nighttime positioning intervention utilizing specialized positioning mattress

To inquire about our Nighttime Positioning clinic services, or to schedule a Nighttime Positioning evaluation, please contact our Clinic Administrator Laneé Bounds at 303-315-1282

Be Prepared in an Emergency

If you or someone close to you has a disability or a special need, you may have to take additional steps to protect yourself and your family in an emergency. READYColorado can be a resource for you. For local information go to READYColorado (<http://www.readycolorado.com>) a public statewide awareness campaign supported by public and private partners concerned with homeland security and all-hazards preparedness.

Its goal is to raise awareness about the importance of disaster preparedness among Colorado citizens. To achieve this, READYColorado is reaching out to individuals, families, neighborhoods and businesses to provide them with the tools and information they need to respond to and recover from any disaster.

Make a Plan

At the most basic level, being prepared means having a solid plan and access to the resources necessary to execute that plan. It's also about peace of mind. Because when communities, families, and individuals are prepared, the fear, anxiety and loss that accompany a disaster are greatly reduced. READYColorado encourages every citizen to: develop a plan for responding to disasters; have well-stocked emergency kits at home, in the car, and at work.

To find out about special assistance that may be available in your community. Register with the office of emergency services or the local fire department for assistance so needed help can be provided.

Resources from Ready America at <http://www.ready.gov/america/getakit/disabled.html>

Disabilities and Special Needs Brochure

<http://www.ready.gov/america/getakit/disabled.html>

Special Needs Instructional Video

<http://www.ready.gov/america/about/flash/movie14.html>

RERC-ACT Starts Second Five-Year Cycle

Assistive Technology Partners is excited to announce that the proposal for a second five year cycle for the Rehabilitation Engineering Research Center for the Advancement of Cognitive Technologies (RERC-ACT) was successful! The new proposal includes returning partners and projects from across the United States and Canada as well as new participants. This next cycle of the RERC-ACT expands and enhances the preliminary work during the first five years. Efforts address three main areas: a product usability testing facility, development of a core software/sensor platform, and standards development.

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Many activities within the projects will be focused on the challenges people with cognitive disabilities have obtaining, maintaining, and succeeding in the workplace. A number of specific challenges to workplace success have been identified and will be studied in the various projects: effective non-linear job coaching; coaching in jobs and tasks that involve multiple workplace locations; the ability to return to a task after any interruptions associated with the modern technological workplace; participating in online collaborative meetings so common in the workplace; learning vocabulary for the workplace; and the challenges of being coached, automatically, in the soft skills that are so important at work. The intended long-term outcomes for this multi-faceted project are to see increases in employment, job longevity, and job satisfaction for people with cognitive disabilities.

Partners for these projects include:

- [AbleLink Technologies, Inc.](#)
- [AT Sciences, LLC](#)
- [CaringFamily, LLC](#)
- [Colorado WIN Partners](#)
- [Imagine!Colorado](#)
- [Institute for Matching Person and Technology](#)
- [University of California—Davis Medical Center](#)
- [University of Colorado—Boulder](#)
- [University of Colorado at Denver and Health Sciences Center](#)
- [University of Illinois—Chicago](#)
- [University of Kansas](#)
- [University of Michigan](#)

For more information on the RERC-ACT, the recently completed projects and the current projects please go to our website at www.rerc-act.org.

SWAAAC Hosts Five-Star Accommodations Training

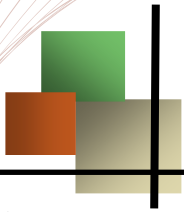
Colorado is only one of ten states in the country to offer accommodations on high stakes testing for all students. Accommodations are practices and procedures in the areas of presentation, response, setting, and timing/scheduling that provide equitable instructional and assessment access for students with a formally documented need for an accommodation in a

plan (IEP, 504, ILP, health care plan etc.)

Assistive Technology plays a key role in providing access and independence to students with disabilities. Dena Coggins, Colorado Department of Education (CDE) Senior Consultant, met with StateWide Assistive Technology Augmentative, Alternative, Communication (SWAAAC) team members November 23, 2009, to elaborate on the crucial role of accommodations in both instruction and assessment. Dena was clear to explain, "...accommodations are designed to provide access and equity, but not provide students an advantage. By equity we mean it provides a student with the means to get information in or to give information out. The goal is not that the student is proficient but that they are provided with an opportunity to get the answer right." The CDE, Nonstandard Accommodations Committee, approved an unprecedented number of Assistive Technology non-standard accommodations for CSAP (Colorado Student Assessment Program) this year, in recognition of the vital role AT plays in the classroom. "We have a responsibility to teach our students to be independent... Assistive Technology can create that independence when students go out into the real world...places where teachers and paraprofessionals can't go." (<http://www.cde.state.co.us/cdeassess/documents/csap/manuals/2010/2009-2010%20Colorado%20Accommodations%20Manual%20Final.pdf>).

If you would like to learn more about the applications of Assistive Technology accommodations for instruction and assessment, join Dena at this year's SWAAAC Summer Symposium for three hours of connecting content standards to learning progressions, expanded benchmarks and the use of assistive technologies to support learning, access and independence.

<http://www.swaaac.com/Files/Trainings/SymposiumSaveTheDate2010.pdf>.



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ATP Early Intervention Program



Tech For Tykes

Assistive Technology Partners' Early Intervention Program has a new look...and even a new name! The program is now called "Tech for Tykes". Thanks to the addition of funding from the American Recovery and Reinvestment Act (ARRA) and a contract with Early Intervention Colorado, within the Colorado Department of Human Services, numerous priorities in early intervention and assistive technology are being addressed.

The primary goal is to increase use and awareness of Assistive Technology for the zero through two population in Colorado with multiple efforts. Strategies to meet this goal include: expanding the existing network of Early Intervention Assistive Technology (AT) Specialists, marketing the program to statewide health providers, and the development of education and technical assistance programs for early intervention providers throughout the state.

To help increase awareness of the potential of AT for young children, a flyer for families of children with special needs is being distributed statewide. The focus is to raise awareness for the public as well as local health providers. Consequently, these flyers have been sent to doctor's offices, EPSDT clinics, and Health Care Program for Children with Special Needs clinics, to name a few.

Thirty to fifty more AT Specialists will be added to the current network. Once those Specialists are added, two-day intensive training will be provided in order to give them the basic knowledge they need to more effectively implement assistive technology services in their community. The addition of more AT Specialists will mean greater use of the statewide loan bank, and greater access to assistive technology for young children throughout Colorado.

And lastly, efforts are under way to develop a web-based training system in assistive technology for statewide Early Intervention (EI) service coordinators, program coordinators, and providers. It will

give them better knowledge of assistive technology in Early Intervention, how technology can enhance developmental skills, the funding of services and devices, and include how to document assistive technology in the Individual Family Service Plan (IFSP). Excitement surrounds the changes in the "Tech for Tykes" program. A feeling prevails among those involved in the community, at Assistive Technology Partners and Early Intervention Colorado that this is a big step toward assuring that every infant and toddler who can benefit from assistive technology to better participate in their environment, and in life, will receive the services they need.

What's happening in the regions?

2010 is off to a running start at the **Southeast Technical Assistance Center (SETAC)** with a multitude of trainings and learning labs being offered. SWAAC 101 was held at the UCCS campus on January 11 and 12 and the room filled to capacity. Introductory training on the **Tango!** (Augmentative Alternative Communication device) by Dynavox Technologies was held at SETAC (Pikes Peak BOCES) on January 14th and 0.2 free American Speech-Language-Hearing Association (ASHA) Continuing Education Units were offered. In addition, two free Learning Labs were offered in January and February. See the Learning Lab Schedule in this newsletter to learn more about upcoming events.

Please make a note of the correct phone number for the SETAC. It is (719)380-6229. You can also email us at setacinfo@at-partners.org or email Heather Lyons directly at heather.lyons@ucdenver.edu if you have questions. She looks forward to hearing from you.

Assistive Technology Partners on the Western Slope (WesTAC) participated in the Mesa County Workforce Center's 2010 Jump Start Resource Fair, at Lincoln Barn on Wednesday, January 20. Seventy-eight exhibitors from around Mesa County were present to provide resource information to 1200-1400 attendees.



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ZAM Emergency Communication Device Distribution

Assistive Technology Partners was pleased to receive a donation of 200 Zam Communicators from Astra-Zeneca, a Delaware-based pharmaceutical company. These devices were developed to positively impact patient health and communication between patients and medical professionals. The ZAM Communication Device provides access to an electronic alphabet board, predetermined phrases specific to emergencies and current health needs in both English and Spanish. It includes a pain scale and body diagram that an individual can use to indicate where the pain or discomfort is located.



Assistive Technology Partners is distributing these devices across the state to Independent Living Centers, Emergency Response Teams, Fire Departments, and Offices of Emergency Managers with the assistance of the Red Cross and the North Central Region All-Hazards Region.

Overwhelming Positive Feedback from 2009 Graduate Students at ATP

Assistive Technology Partners (ATP) has completed its last year of a five-year federal grant awarded through the U.S. Department of Education to provide graduate level training to address the shortage of personnel trained to provide services to children with low-incidence disabilities. Over the past five years (2004 -2009), fifty-nine, graduate students from the fields of education, speech therapy, and occupational and physical therapy have completed 18 graduate credit hours and received a certificate in advanced AT

training. Overall, the feedback from the semester evaluations was very positive. Preliminary competency data indicates significant changes in performance and knowledge level of all trainees following completion of the program. Faculty from Assistive Technology Partners will be closely analyzing the data collected from the last five years in order to explore trends and improve the program. Assistive Technology Partners will continue to seek out new opportunities to support additional educational opportunities.

AT Finder Helps People Find Devices

AT Finder is an online tool that allows up to four online classifieds and/or auction sites to all be searched simultaneously using one simple, easy to use interface.

The following websites are currently supported:

- Craigslist – Features local classifieds and forums that are community moderated.
- Ebay – An auction and shopping site where the majority of items sell on a set-time auction format.
- Kijiji – A centralized network of online urban communities for posting local online classified advertisements.
- Oodle – Pulls together and organizes millions of classified and auction listings from all over the Web.

There are two different kinds of searches:

Basic Search – A basic search automatically searches all of the supported websites by entering a search term, a ZIP code and a search radius in miles.

Advanced Search – An advanced search allows any or all of the supported sites to be searched and also allows search options to be set for each specific search.

AT Finder Website:

In order to use AT Finder, you will need to sign-up for an Assistive Technology Partners account. Once you register, you will have access to this and other ATP tools, such as AT Funding Sources. Registration is free and is only required once.

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Any devices or equipment obtained from AT Finder should be based on a professional evaluation and/or recommendation from an Assistive Technology Specialist to assure proper usage and fit. Currently AT Finder only supports searches in the state of Colorado. Searches may be performed in all areas of the United States, but the success of the search is not guaranteed for other states.

AT Finder is offered as a free service and is designed, developed and maintained by Assistive Technology Partners. This project is made possible by funding from the Assistive Technology Act of 2004 P.L. 108-364; H224B030001 and H224B060002.

<http://www.at-partners.org/ATFinder/>

ATP Offers Free Education to the Public

Learning Labs will be offered on the 2nd Thursday of each month beginning at 2:30pm. Live presentation will take place at the Assistive Technology Partners Denver office at 601 E. 18th Ave., Denver, CO 80203. The Colorado Springs and Grand Junction satellites will participate in Learning Labs via web-based training software simultaneously.

Ergonomic Solutions for Computer Access

Presented by Greg McGrew, ME
Thursday, March 11th

Computer Use for Toddlers with Special Needs

Presented by Brian Burne, MSM, OTR
Thursday, April 8th

Overview of Guide Software for People with Visual Impairments

Presented by Denice Roberts, MEd
Thursday, May 13th

Wheelchair Back Supports

Presented by Leslie McLachlan, PT, MSPT, ATP
Thursday, July 8th

Adaptive Telecommunication Devices for Limited Hand Function or Hands Free Use
Presented by Aleaza Goldberg, MA, CCC-SLP
Thursday, August 12th

Introduction to TextHelp
Presented by Shelly Elfner, MS, CCC-SLP
Thursday, September 9th

Do-It-Yourself Switch Adaptations for Toys and Video Games
Presented by Gavin Philips, MSEE
Thursday, October 14th

Smart Pen for Struggling Students
Presented by Becky Breaux, MS, OTR, ATP
Thursday, November 11th

For more details or to REGISTER for the learning lab please call:

Denver: (303)315-1280 or email atp@ucdenver.edu

Grand Junction: (970)248-0876 or email denice.roberts@ucdenver.edu

Colorado Springs: (719)380-6220 or email heather.lyons@ucdenver.edu

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Assistive Technology Device Demonstrations

Demonstrations of assistive technology devices are available to consumers and family members, as well as advocates, employers, and educators. Demonstrations include an explanation of the function of the device as well as, instruction on its use. The intent is for individuals to have “guided exploration” of a specific device or category of devices. Opportunity is provided for participants to try devices out so that they will be better able to determine the most appropriate device to meet their specific needs. Visitors will be given information about further assessment, funding, and vendors to help them acquire the most appropriate devices to meet their needs.

Device Demonstrations are scheduled monthly in the format of a Learning Lab at Denver Assistive Technology Partners Office as well as our Western Slope Technical Assistance Center (WesTAC), in Grand Junction; and at the Southeast Technical Assistance Center (SETAC) in Colorado Springs. The schedule of Learning Labs is included in this newsletter. Additionally, an individual may contact any of the Assistive Technology Centers with questions about devices or to schedule a 30 minute appointment to learn more about technology and services available to meet their specific needs.



Devices to Assist Those with Vision Impairments

Contact Assistive Technology Partners

Assistive Technology Partners
Department of Physical Medicine and Rehabilitation
School of Medicine
University of Colorado Denver

<http://www.assistivetechologypartners.org/>

Denver Office:

Pearl Plaza
601 East 18th Avenue, Suite 130
Denver, CO 80203

MAIN: 303.315.1280
CLINIC: 303.315.1282
TOLL-FREE: 800.255.3477
TTY: 303.837.8964
FAX: 303.837.1208

Satellite Office: Western Slope Technical Assistance Center (WesTAC)

Mesa County Workforce Center
2897 North Avenue, Modular 3A
Grand Junction, CO 81501

MAIN: 970.248.0876
TOLL-FREE: 800.255.3477
TTY: 970.248.0877
FAX: 970.248.0877

Satellite Office: Southeast Technical Assistance Center (SETAC)

Pikes Peak BOCES
828 Wooten Road
Colorado Springs, CO 80915

MAIN: 719.380.6229
TOLL-FREE: 800.255.3477
TTY: 719.380.6230
FAX: 719.380.6230