Assistive Technology Strategies in Working with TBI

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Assistive Technology (AT) is...

“Any item, piece of equipment or product system, whether acquired commercially, off-the-shelf, modified or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.”

Assistive Technology Act, 1998
Considerations

- Financial resources available to assist with TBI work barriers are on decline

- Use of AT to increase productivity and accuracy largely unrealized

- Use of AT conjures up thoughts of high ticket items, i.e. computers, AAC devices, etc.

- 80% of AT solutions cost less than $100
Every Day Problems!!

- Just need a quick short term solution
- Attaching a device or piece of equipment
- Holding a device in place
- Flexibility in positioning devices
- Independent Starting and Stopping
- Just need a quick short term solution
As Simple as Duct Tape

- Focus on functional outcomes and available resources

- Have outcome driven goals, not process driven or “same old – same old”

- Use creative problem solving or “color outside the lines”

- $5 and 5 minute solutions may include: tapes, adhesives, fasteners, pipe, wire, etc.
5 Minute Solutions

- May not be permanent (Rapid Prototyping)
- Are usually inexpensive
- Materials found in-house or locally
- Include consumer driven design
Records Clerk

- **Job Requirements:** 1) frequent use of stapler and tape dispenser: 2) repair documents torn by mail room letter opening machine: 3) remove staples from documents
- **Goal – Improve Productivity**
- **Problem**
  - **A.** tape dispenser/stapler slides on desk top requiring a two hand activity
  - **B.** time consuming effort to ID, sort and tape damaged documents
  - **C.** Staple remover was difficult to manipulate
Records Clerk Recommendations

- Use shelf liner from break room or carpet tape under devices as non-slip
- Trial electric stapler and tape dispenser
- Use a “push” rather than “pinch-pull” staple remover
- Consult with mail room on envelope opener machine repair
- Tactfully discuss “preserve and protect” mentality with department head regarding task, process or equipment change
Computer Access

- Computer use is frequently an essential job function in most employment or educational settings.

- TBI significantly impacts computer access through cognitive, motor and sensory barriers.

- Increased function seen by incorporating color coding, sorting of messages by topic or cell phone applications such as JOTT [www.jott.com](http://www.jott.com)
The Key

- Identify cognitive ability and computer interest through a good evaluation

- Identify best means of accessing a computer based on individual need, ability and environmental or employment context

- Use appropriate hardware and/or software for anticipated outcome
**Background:** Female, 26 y/o college student, S/P motor vehicle accident resulting in severe TBI (2004).

**Goal:** Resume computer activities, increase computer productivity/accuracy and hopefully return to work

**Strengths include:**
- Highly supportive family
- Motivated
- Some preserved new learning capacity
- Low average reasoning
- Good basic attention
Functional Deficits

- **Mobility** – quadriplegia

- **Vision** – ptosis (drooping eye lids) and double vision

- **Communication** – dysarthria

- **Left Upper Extremity** – limited use due to contractures and tremors

- **Right Upper Extremity** – dominant, but poor fine motor coordination

- **Fatigue and Endurance**

- **Cognition** – complex reasoning and complex visual stimuli
AT Solutions

- Flat panel monitor, mounted on arm
- WordQ (reading/typing assistant)
- Big Keys keyboard and keyguard
- Typing stick (left hand)
- Adjustable arm support (left arm)
- Joystick Mouse
- External switch for mouse click/drag
- ZoomText software – screen magnification
- Use of Windows accessibility options
- Use of **Bold** and 26+ font
Choosing AT

- Tech support available?
- $back – warranties – guarantee
- Compatible with other AT – Mac vs PC
- Can it be funded – by who and how
- Who does training – expertise, how much or long
- Repair – who, turn around, shipping
- Changes over time
5 Minute Solution Resources

- Hardware Stores
- Bicycle Repair Shops
- Deep Discount Stores (Dollar Store)
- Goodwill, St. Vincent, etc.
- Garage Sales / Flea Markets
- Construction Site “Dumpster Diving”
- Local Manufacturing Companies
- Major Retail (Radio Shack, Target, Wal-Mart)
- “Ask Your Community”
Web Sites

- Washington Assistive Technology Act Program: http://watap.org
- University of Washington Center for Technology and Disability Studies: http://uwctds.washington.edu
- Job Accommodation Network (JAN) http://www.jan.wvu.edu/