

# Position for Work: A Closer Look at Workplace Accommodations & Assessments

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**Wednesday, July 30, 2014**  
**2:00 pm to 3:30 pm EST**



[www.amacusg.org](http://www.amacusg.org)



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  - To receive your verification form, send an e-mail with the webinar title and date, your full name, organization, city, state, e-mail address and date of birth to [Liz.Persaud@gatfl.gatech.edu](mailto:Liz.Persaud@gatfl.gatech.edu)



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Georgia's Assistive Technology Act Program

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## Learn More about AT through Hands-On Demonstrations

Welcome to Tools for Life

Tools for Life, Georgia's Assistive Technology Act Program, is dedicated to increasing access to and acquisition of assistive technology (AT) devices and services for Georgians of all ages and disabilities so they can live, learn, work and play independently and with greater freedom in communities of their choice.

Tools for Life and the TFL Network work collaboratively together to accomplish our mission through:

### IDEAS CONFERENCE

**JUN 2** Epworth by the Sea, St Simons Island

### WEBINARS

**MAY 28** Georgia's Leadership Model for Increasing Accessible ICT in State Government

**JUN 25** Learn More and Do More: Exploring Accessibility and Apps for Android

**JUL 30** Position for Work: A Closer Look at Workplace Accommodations & Assessments

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### TOOLS FOR LIFE APPFINDER

...for Living, Learning, Working, and Playing.

### AT ONLINE EXCHANGE

**gTRADE**

# Ergonomics in the Workplace

- Promoting full inclusion in workplace environments often includes knocking down simple physical barriers by building up everyone's skills and knowledge of the principles of ergonomics and understanding of assistive technology solutions. This presentation will **identify ergonomic challenges** that individuals with disabilities often face in their workplace environments. Presenters will share a range of **strategies that include the basic steps to identifying problem areas within the scope of a workplace assessment. Solutions will be shared** that can assist with **improving posture, enhance the ability to focus, reduce fatigue and save energy** all while promoting inclusion and productivity at work.

For Handouts: <http://www.gatfl.gatech.edu/tflwiki>

# AMAC

AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private and non-profits organization working with individuals with disabilities. Services include e-text, braille, captioning, assistive technology, office management software and consulting.





# Accessibility Made Smart

AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.

- **Accessibility Consulting** focuses on organizational accessibility needs with evaluation, technical assistance, customer support, and website accessibility solutions.
- **Braille Services** produces customized projects from both print materials and electronic text including partial books and chapters or graphics only using cutting-edge technology.
- **Captioning Services** makes classrooms, meetings, labs and other audio environments fully accessible for deaf or hard-of-hearing.
- **Professional E-Text Producers** provide high-quality e-text in many formats such as PDF, DOC, DAISY, and HTML.
- **Certified Assistive Technology team** provides on-site and remote assessments, demonstrations, training and technical assistance for education, work, and daily living environments.

For more information, please visit our website at [www.amacusg.org](http://www.amacusg.org)



# Tools for Life Mission

We're here to help Georgians with disabilities gain access to and acquisition of assistive technology devices and assistive technology services so they can live, learn, work, and play independently in the communities of their choice.





## Washington Assistive Technology Act Program

- University of Washington Center for Technology and Disability Studies (UWCTDS) is the lead agency for WATAP
- Programs and services for Washington residents
  - [Device Demonstration](#)
  - [Device Lending](#)
  - [Information and Referral](#)
  - [Device Reutilization](#)
  - [Alternative Financing](#)

(800) 214-8731 Toll-Free Hotline

(206) 616-1396 TTY

<http://watap.org/>

<http://uwctds.washington.edu/>

Email: [wapat@uw.edu](mailto:watap@uw.edu)



# **Identify Ergonomic Challenges**

# When is an evaluation needed?

- Proactive Prevention
- When working posture is affecting performance, attention, and creating pain
- **TIP: Consider incorporating ergonomic principles into the IWP to support workplace goals.**
  - Helps with breathing, circulation, attention, concentration & ultimately learning
  - Must consult with a trained professional
  - Educate everyone – individual, family, supervisors, peers

# Ergonomics

- Humans present with unique physical characteristics and abilities
- Goal is to fit the task, equipment and environment to the person
  - Design tasks
  - Work spaces
  - Tools/Equipment
  - Lighting



## Contributing factors for poor positioning (Office Setting)

- Non-adjustable workstations; the layout of the workstation does not fit the user
- Lack of knowledge on how to set up the workstation properly according to the user's needs ( both physical needs and job tasks)
- Poor working habits that remain uncorrected
- Fatigue and vision issues

# Poor Sitting Posture



- Inhibits blood flow
- Creates muscle shortening
- Stresses back muscles and compresses spine
- Can inhibit focus
- Compresses diaphragm
  - Affects breathing
  - Voice quality



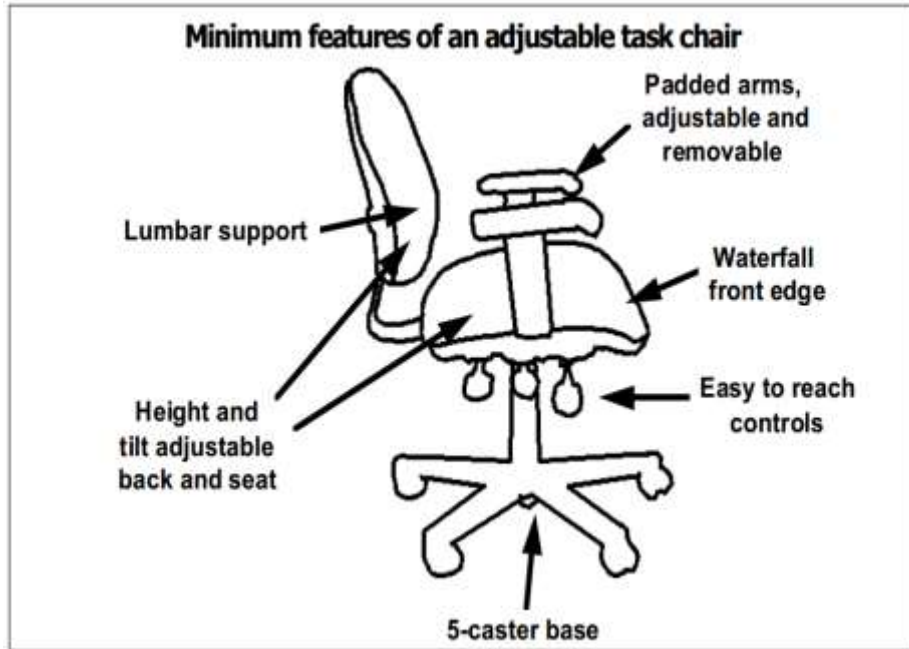
# **Solutions: Improving Posture**



# Chairs



# Guidelines



[www.lni.wa.gov](http://www.lni.wa.gov)

# Guidelines when sitting



- Proper height for desk or height adjustable if possible
  - boost height in a non-adjustable chair
- Thighs should not be in contact with the front edge of the seat
  - 2" to 3" between front edge of chair and back of knees
  - Use firm pillows or cushions to reduce seat depth
- Adjust the chair so feet are flat on the floor and thighs parallel to the floor
  - use foot rest or seat cushions to achieve proper posture
- wheelchair user feet should make good contact with footplates

# Are these good chairs?



# Answer.....



- Depends on the person, task and work environment

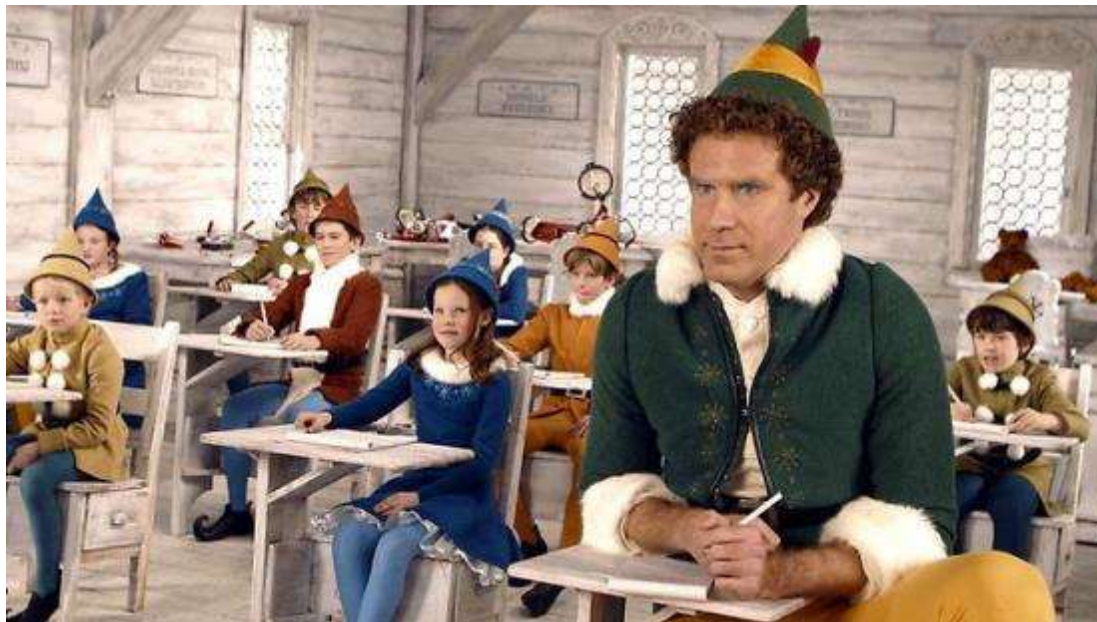




# Workstations

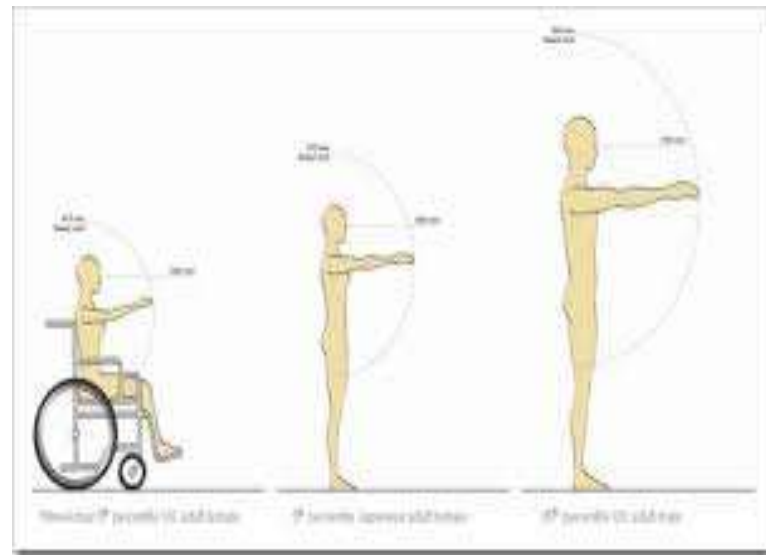
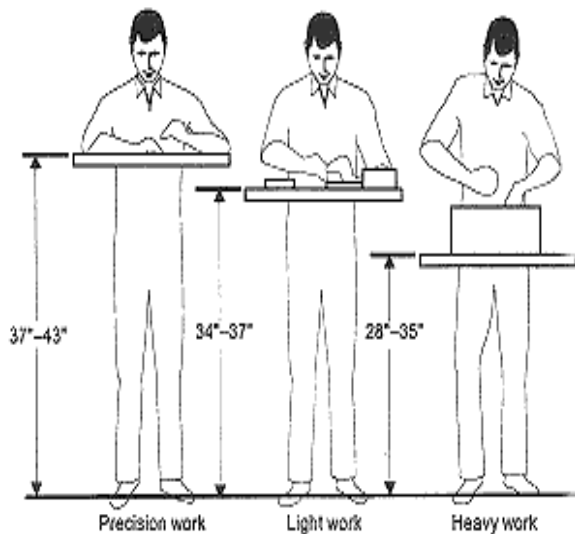


- Many options
- Stature considerations
- Task considerations
- Needs based on injury or disability



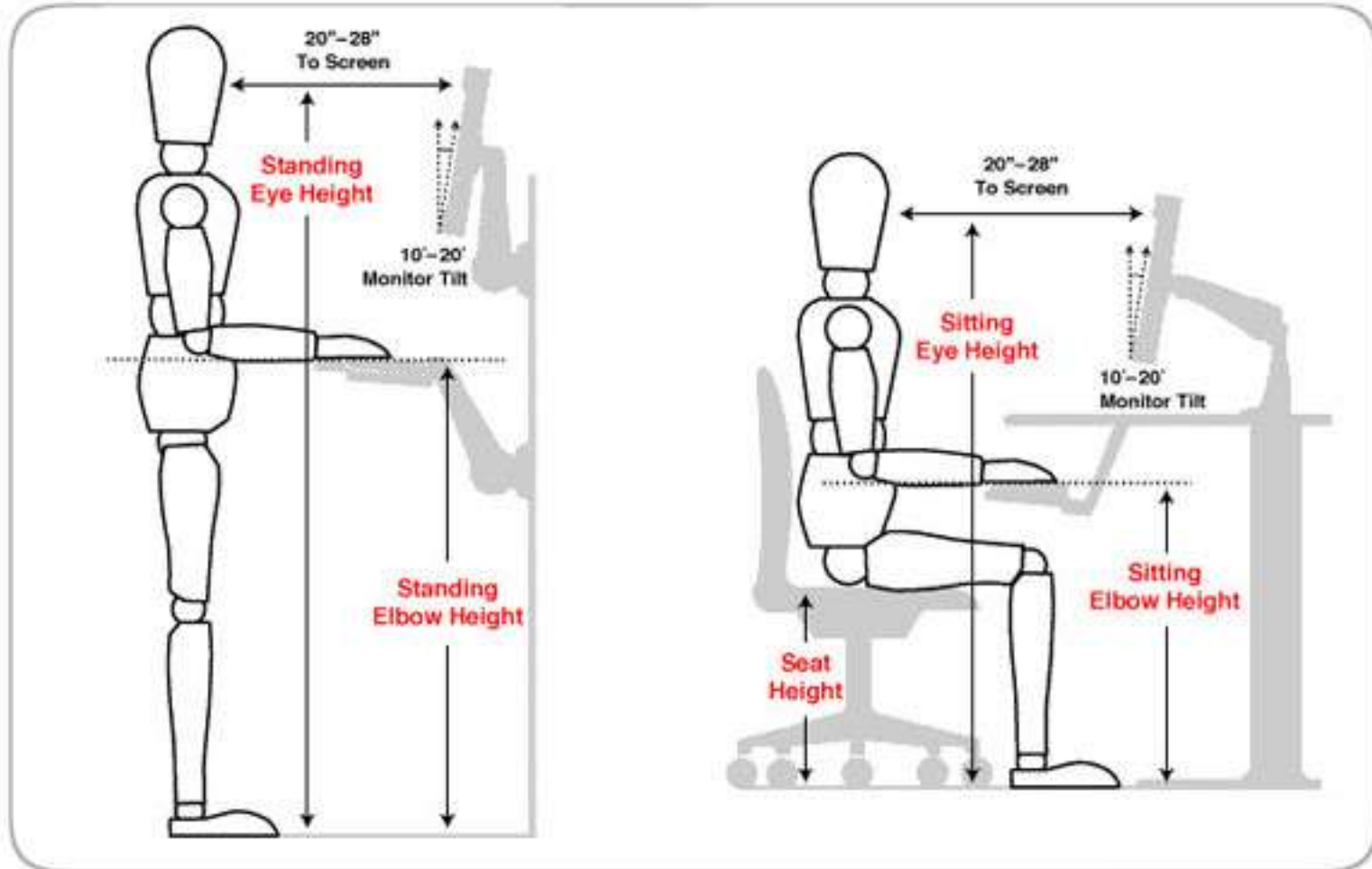
# Ergonomics

- Position will vary depending on the individual and the task



Completerehabolutions.com

# Ergonomics





# Wheelchair users

- Access for manual w/c user vs. power chair user is different
- Desks with cut outs; taller height
- May need computer accessories to improve access



# Accessories

- Monitor holder/stands
- Document and phone holders
- Keyboard trays



# Modifications



# Modifications



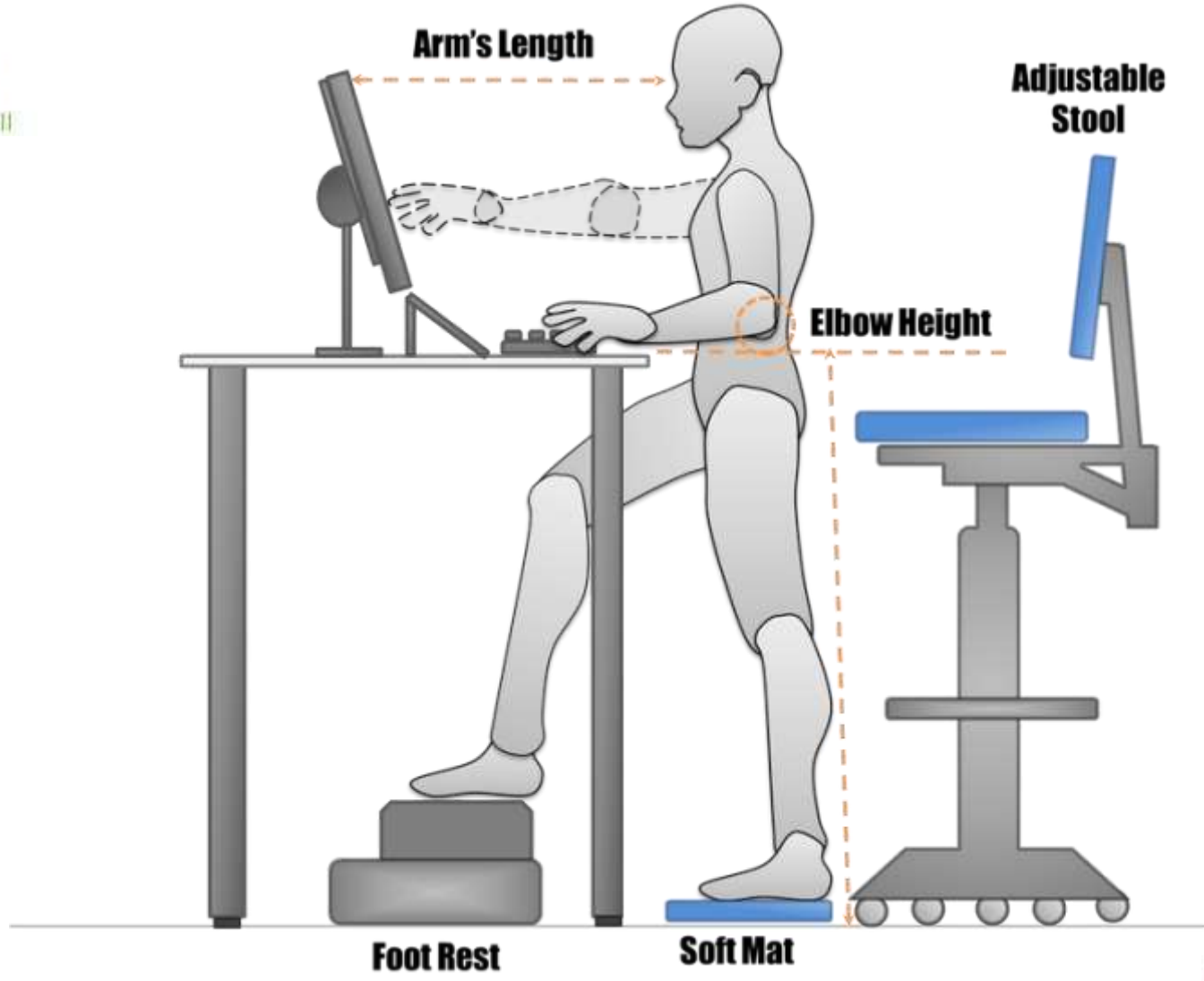


# Sit-Stand Workstations



- Many options: electric, crank, pneumatic etc.
- Reduces back strain
- Increase circulation and muscle activity
- May not be a good option for individuals with knee and hip issues





# Modifications



## DXT Fingertip Vertical Wireless Mouse

- Ergonomic Relaxed Neutral Wrist and Hand Position
- Precision Grip for Accurate Navigation
  - Small muscles and joints of the fingers have higher processing abilities
- Instantly Switches Between Right and Left Hand
- [Video](#)

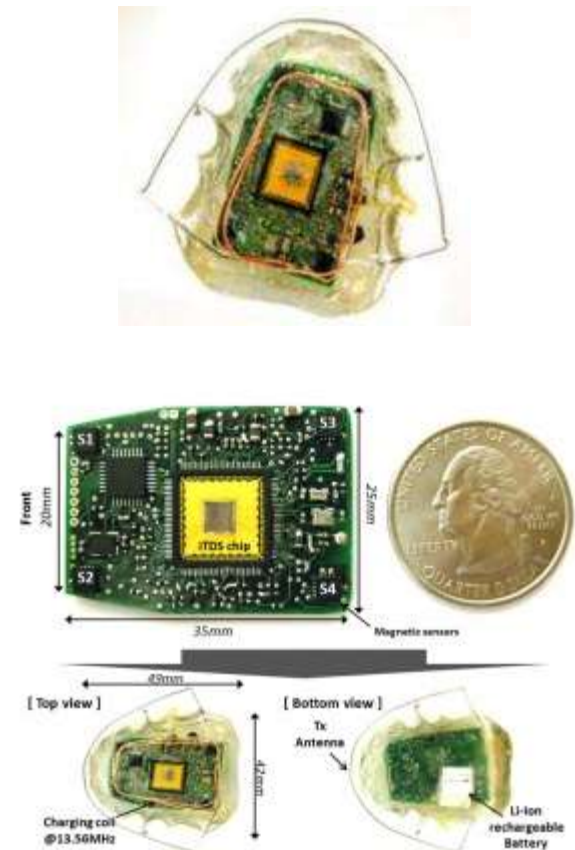




# Tongue Drive System

- Wireless device that enables people with high-level spinal cord injuries to operate a computer and maneuver an electrically powered wheelchair simply by moving their tongues
- dental retainer embedded with sensors
- detect movement of a tiny magnet attached to the tongue
- Testing with iPods and iPhones

- *GA Tech*
- *Shepherd Center and Rehab Institute of Chicago*





## Products / New Products

ASL brings innovative products to our clients! We are here to help each client reach their full potential – our team creates products and designs as a direct result of the needs of those we serve. Our goal has always been independence and equal rights for those we work with....

### Driver Control Packages

100 Series

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### Electronic Switches

200 Series

ASL 215 Round Proximity Sensor with Mono Port and 24 Volt Connector



Specialty Products & Adaptors

### Electronic Switches

200 Series

ASL 215 Round Proximity Sensor 3 Pin



Specialty Products & Adaptors

# Keyboards

- Larger keys can increase access for students with visual or motor difficulties
- \$70-\$100



# Keyboards

- Compressed/mini; 77 keys
- Smaller footprint beneficial for one handed users
- \$35-50





# Ergonomics and Writing Solutions

## Writing Solutions:



- “The Penagain takes a novel [ergonomic](http://ergonomics.about.com/od/buyingguide/fr/frpenagain.htm) approach to ink pen design. The body of the pen is shaped like a "Y" creating a cradle for the index finger to rest in.”  
<http://ergonomics.about.com/od/buyingguide/fr/frpenagain.htm>



- Wide barrel pens can make it easier for some people to write due to their contoured shape. With a Fat Ergonomic Pen there's more surface area to grip which makes it easier to write.





# Movement Helps Learning!

- 2003 study in *American Journal of Occupational Therapy* concluded that students with ADHD using ball chairs were able to sit still, focus and write more words legibly
- 2007 Mayo Clinic study concluded that a chair-less classroom increased attention and improved learning
- 2008 University of Central Florida study
  - children need to move to focus during a complicated mental task
  - especially those with attention-deficit/hyperactivity disorder (ADHD)—fidgeted more when a task required them to store and process information rather than just hold it.

# Fidget Footrests

- Standing desks can help students who find sitting still difficult
- Use of dynamic footrests can help release energy and improve focus



# Mounts and Work Surfaces

- Sit/stand desks
- Tilt Desks
- Portable mounts for devices
- Adjustable monitor arms



# Mounts



RAM



RAM



ErgoMart



(RJ Cooper Magic Arm )

# Gaming...The thumbs have it!



# Mobile devices



- Explore various mounting options to hold mobile devices
- Helps with posture
- Operate wheelchair or other mobility aid safely
- Builds confidence
- Then you can text Carolyn & Maria all the time!

# Mobile devices

- Should be accessible for type of selection process
  - Direct selection with hands
  - Stylus
  - switches
- Use mounts to improve upper extremity and visual access

## **Solutions: Enhance the Ability to Focus**

# Position for Eating

- Let's consider how ergonomics in the workplace (break room) can affect socialization:
  - Posture
  - Safety
  - Inclusion & Making friends





# Position for Eating

- **Posture**

- Poor ergonomics, like the examples that we discussed, can directly affect someone's ability to independently eat meals at work.
- Leaning to one side or the other
- Positioning arms out of reach
- Feet that are not supported

# Position for Eating



- **Safety**

- Poor posture in general, but especially while eating can lead to diminished breathing. When shoulders are rounded or not balanced they can restrict expansion of the rib cage/breathing diaphragm. Inhalation is compromised.
- Eating while fatigued, under stress or when you are rushed can slow down the digestive process leading to future health problems such as challenges to the immune system.
- Head positioning can directly affect swallowing. Poor head positioning, leaning to one side or the other, forward or back, can cause choking and aspiration.

# Automatic Feeder

- Mealtime Partner
- Different mounts
- Battery operated
- Bowl tops controls amount of food
- Control Pause time between spoonful
- Adjustability of the spoon





**Picture of the Mealttime Partners Mounted on the Support Arm**

Individuals who have limited range of upper body control or who fatigue easily from the effort of controlling their body movement should use *the Partner* mounted on the Support Arm. The Support Arm allows *the Partner* to be positioned so that the spoon, when extended out from the device, is positioned very close to the user's bottom lip. With *the Partner* positioned this way, the user only has to lean forward slightly to take food off of the spoon, thus the user exerts very little effort.

# Utensils



# BackTpack

- Ergonomically redistributes the weight of carried loads between two compartments
- Hip-loading belt
- Magnetic closures
- Easy access to items
- Sit strap
- Lightweight/water resistant nylon



<http://www.bapingroup.com/>; \$63 to \$100



## **Solutions: Reduce Fatigue and Save Energy**

# Case Study Example

- Individual with MS
  - Fatigue\*\*
  - Temperature regulation\*\*
  - Motor/Mobility issues\*\*
  - Vision\*\*
  - ADLs
  - Memory/cognition

# Vision

- Magnify written material using hand/stand/optical magnifiers
- Larger monitors
- Adjustable monitor holders may be beneficial
- Provide large print material or text to speech software
- Glare screen to the computer
- Proper office lighting
- Allow frequent rest breaks

# Fatigue



- Reduce or eliminate physical exertion and workplace stress
- Implement ergonomic workstation design
  - Design workstation to reduce reaches
  - Easy access to frequently used tools and equipment
- Schedule periodic rest breaks away from the workstation
- Allow a flexible work schedule and flexible use of leave time
- Provide a scooter or other mobility aid if walking cannot be reduced (consult with PT)

# Heat Sensitivity

- Use cool vest or other cooling clothing
- Use fan/air-conditioner at the workstation
- Allow flexible scheduling and flexible use of leave time

## **Solutions: Productivity at Work**



# TFL AppFinder

**Search by:**

✓ **App Name**

✓ **Categories**

- Book
- Education
- Environmental Adaptations
- Hearing
- Cognition, Learning, Developmental
- Navigation
- Personal Care and Safety
- Productivity
- Communication
- Therapeutic Aids
- Vision



# SkyGrid



- Personalize news events by categories
- Simple interface
- Free
- [www.skygrid.com](http://www.skygrid.com)



# Dragon for iOS & Android

## Dragon & Dragon Mobile Assistant

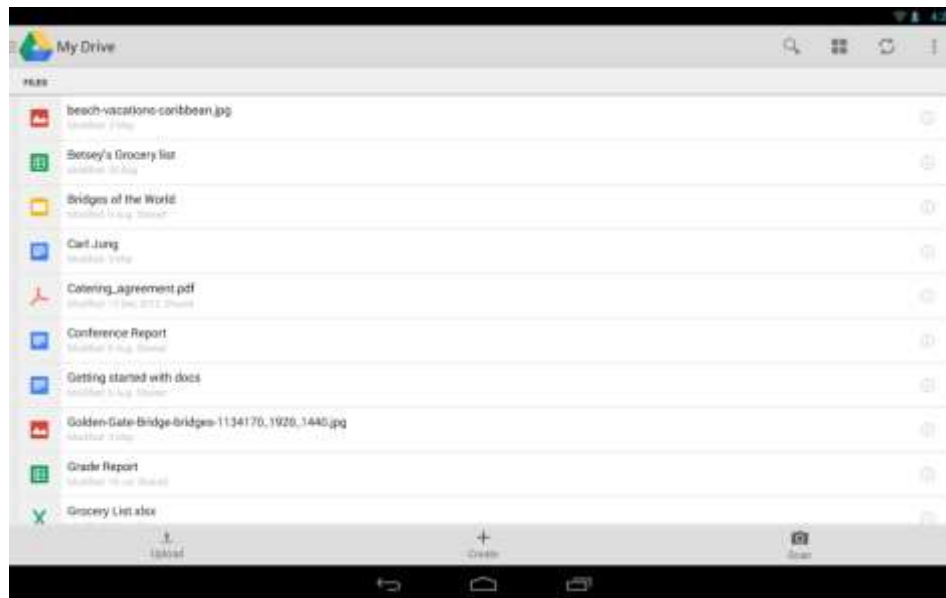
- Speak to send a text, email, or call
- Set reminders
- Search the Internet
- Program to listen only to your voice
- Free

## Swype

- Alternate Keyboard
- Draw from one letter to the other without lifting a finger
- Reduces finger movement/fatigue



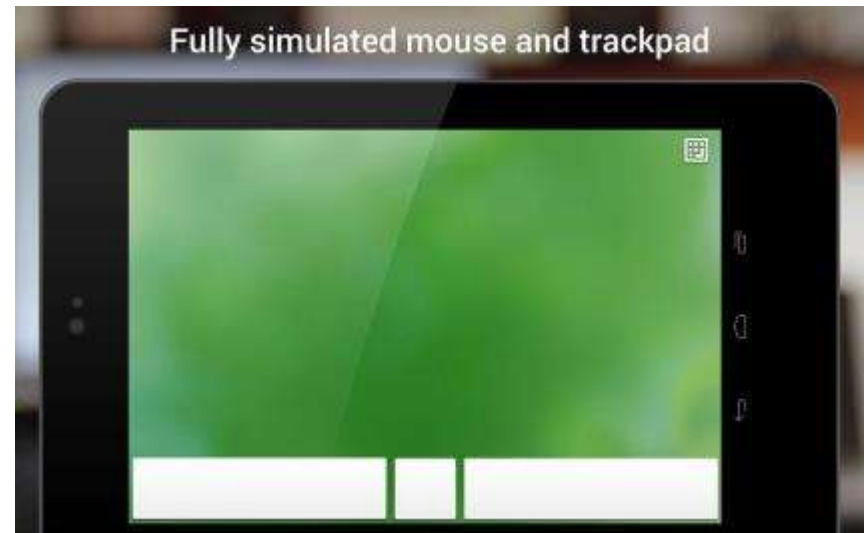
# Google Drive



- Upload photos, videos, documents, and other files and access wherever you go
- Share photos and files
- Make files available off-line
- Scan documents with device camera
- Up to 15 GB of storage
- Free

# Remote Mouse

- Turns your mobile phone or tablet into a wireless remote control for your computer
- Fully simulated mouse
- Magic trackpad
- Multi touch Gestures
- Landscape mode



# Bump



- Use Bump™ to share contact information and photos by simply bumping two phones together.
- Just open Bump, hold your phones, and gently bump your hands together
- **Free!**

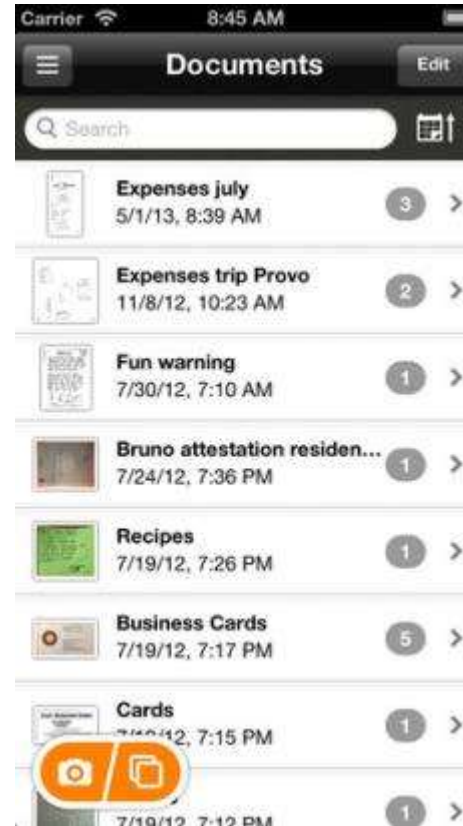
[Demo](#)



# Genius Scan



- Scan documents or handwritten notes
- Email the scans as JPEG or PDF
- Free
- Genius Scan Plus (\$2.99) allows upload to Dropbox, Skydrive or Evernote



# Perfect OCR



- \$3.99
- Uses the built in camera to scan documents
- Edit, copy, store, email documents
- Upload to online storage is as Evernote
- Does take practice for picture



# Wunderlist

- List management
- Create recurring to-dos
- Create subtasks
- Set due dates
- Reminders
- Notifications
- Cloud sync
- Email directly
- Collaborate with anyone
- Access on all devices including web
- <https://www.wunderlist.com/en/>



# Reminders



- Built-in App
- Works with VoiceOver
- Organize your reminders
- Siri if have iPhone 4s or 5
- The new iPad

# iZen Garden



- Choose from 100s of objects, plants and creatures to place in your garden
- Rake the sand and share your creations
- Helps you to center your mind, relax your psyche and relieve your stress



# Breathe2Relax



- Portable stress management tool
- Detailed information on the effects of stress on the body
- Instructions and practice exercises to learn the stress management skill called diaphragmatic breathing





# Preparation for the Future

- Compliance & Progress
  - Proper positioning will become habit and will provide comfort that will help to shape compliance over the years.
- Save Energy
  - Muscles have to work extra hard just to hold you up if you have poor posture, leaving you without energy.
  - Work smarter, not harder!

# Preparation for the Future

- Ready for the Workplace
  - All of the solutions, helpful tools and strategies that I learned over the years are helping me to be successful today!
  - Let your environment work for you!



# References

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- <http://www.time.com/time/magazine/article/0,9171,1889178,00.html>
- <http://www.desktopdesk.com/purchase.html>



**Our Question to You:  
What have You Learned today?**



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### Disclaimer

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