Welcome!

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Assistive Technology for the Caregiver

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Assistive Technology to Help Caregivers

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Disclosures

I do not work for any company nor profit from any product in this presentation
Voice Recognition Devices (aka Smart Speakers)

- **Amazon Echo, Google Home**
  Voice Control Operates
  - Lights, fans, window air conditioners etc…
  - Music
  - Read Books
  - Calendars, schedules, lists
  - Control TV/DVD/Cable
  - Locks/doorbell
  - Will give you updates on weather, sports, etc…
  - Requires WiFi
Smart Speakers with Screens

• Allow you to see the person, room, or event you want to watch
  – Can check in remotely to make sure your loved one is safe, hasn’t fallen, etc….

• You can “talk” screen to screen
Environmental Controls

• Ring Doorbell
  – Allows you to see who is at the door

• Smart Locks
  – Remote locking and unlocking
    • Good for allowing access for home health aides, visiting nurses or therapists
      » No codes, no keys

• Fans, thermostats, lights
Changing TV Channels

• You do not need any other product if you have Direct TV
  – Those controls are already embedded in any Echo
  – Only need a “hub” or “cube” if you have cable or other TV provider

• Harmony Hub $69.99
  – Works with Alexa to easily control your home entertainment devices with your voice
  – Combine up to 8 remotes and countless apps into one easy-to-use smartphone app.
  – Create customized activities to control your home entertainment
  – Harmony App for iOS or Android smartphone or tablet: Simply swipe and tap to control
    channels, movies, 50 customizable channel Favorites
  – Closed cabinet control: Included Harmony Hub lets you control devices in closed cabinets

• Amazon Fire Cube $119.00
  – Fire TV Cube is the first hands-free streaming media player with Alexa. From across the room,
    just ask Alexa to turn on the TV, dim the lights, and play what you want to watch.
  – With far-field voice recognition, eight microphones, and beamforming technology, Fire TV
    Cube hears you from any direction. Enjoy hands-free voice control of content—search, play,
    pause, fast forward, and more. Plus control the power and volume on your TV, soundbar, and
    A/V receiver as well as change live cable or satellite channels with just your voice.
Making a Phone Call

To make a call from your compatible Echo device, just ask Alexa to call the person or contact you want to reach by name

• You can also specify which contact information Alexa should use, depending on the options you have saved in your phone’s contacts list. Or, if you know the number you want to dial, say each digit (including the area code)

• **Note:** Alexa does not currently support calls to the following types of numbers:
  – Emergency services numbers (e.g. “911”)
  – Premium-rate numbers (e.g. “1-900” numbers, or toll numbers)
  – N-1-1 numbers / abbreviated dial codes (e.g. “211,” “411,” etc.)
  – International numbers (numbers outside of the US, Canada, and Mexico)
  – Dial-by-letter numbers (e.g. “1-800-FLOWERS”)

• The Smart Speaker can hang up on a phone call
  – This is a feature on a cell phone that still requires the user to touch the screen
Calling for Help

- The most crucial assistive technology that can be in the home
  - ALWAYS ALWAYS have a way to call for attention
  - What type of call do you need to make?
    - Within the home
      - In the home and also the yard
      - Call out for help (911)
  - What dexterity does the user have?
  - If user can still speak, baby monitors (especially those with video) make great call systems
    - WebCams (aka nanny cams)
  - If user has limb movement, any type of bell…cow, dinner, etc…will attract attention
Call Systems for the home

- Wired or wireless device
  - Wired device has a call bell for the PALS and an alarm which will emit a loud beep until the user releases the bell
- Med Labs EZ Call Bell and Alarm
- About $125.00
- [http://www.medlabsinc.com/Med_Labs/PA-1_ALARM.htm](http://www.medlabsinc.com/Med_Labs/PA-1_ALARM.htm)
Calling for Help in the Home

- Wireless Pagers
  - Can be as simple as a wireless doorbell from local home improvement center
  - Approximately $20.00
Adapted Wireless Pagers

- Can be used up to 40-100 feet away
- Either chime only or chime and vibrate
- $51.95-$67.95
Emergency Alert System (monitored)

• Two-way 24-hour a day
  – 365-days-a-year emergency response service designed to provide assistance and reassurance to people in need

• Monthly service charge and an installation fee
  – Installation around $80.00
  – Monthly fee around $50.00

• User wears a transmitter and there is a fixed communicator unit that is placed in the home
  – Users call for assistance by pressing a small, portable, waterproof button worn around their wrist or as a pendant
  – The communicator unit, which is attached to the subscriber's current phone system, is then activated and automatically dials the service

• Incoming calls can be answered
Non-monitored Emergency Alert Systems

Affordable emergency alert devices that are easy to use
– Connect to your telephone
– Dial "911"
– Call up to 5 telephone numbers of your choice
– Send an emergency pre-recorded
– About $225.00 or less
– http://www.telemergency300.com/
Telephone Options (Landline)

Ameriphone RC200
– High-fidelity speakerphone
– Voice activated answering and a wireless remote
– Holds up to 20 pre-programmed numbers
– User has to be within 40 feet of ur
– Approximately $400.00
Cell Phone Use

- **Siri (Apple products)**
  - Turn on “Hey Siri” (under settings) to text and make phone calls without touching home button or screen

- **Okay Google (Androids)**
  - App on the Google Store
    - Make phone calls without touching home button or screen

- **Google Voice Access (Androids)**
  - Total access to an Android device through this free app
    - All icons have a number attached – user says number to make selection

- **Sesame Enable (Android)**
  - Head movements control any Android Phone
  - $20.00/month app fee
Amplification

- Using an amplifier in conjunction with a microphone
  - Reduces fatigue
  - Preserves energy
  - Not covered under medical insurance

Consider for those using Non-Invasive Ventilation!

Especially if they are using Trilogy

Use transdermal microphone on vocal cords
Communication Options

• No technology
  – Non-electric. Does not plug into wall

• Low technology
  – Letter or picture boards

• Mid technology
  – iPads, tablets

• High technology
  – Electronic speech generating devices
  – Eye gaze devices
Rapid Access

- Establish a yes/no and **maybe** system
  - Eye blinks—one blink equals yes, two blinks equals no
  - Look left, right or up
- Letterboards
- Picture boards
- Eye Gaze boards
  - Can be used hands free
Laser Pointers for Communication

- Use of laser pointers
  - Mounting of laser pointers on a hat or head band—letterboard placed on wall and user moves head around board to make selections
  - [http://store.lowtechsolutions.org](http://store.lowtechsolutions.org)
iPads and Android Tablets

- Communication apps for both Apple and Android products will turn any device into a communication system
Mounts
Headmouse

- HeadMouse replaces the standard computer mouse for people who cannot use or have limited use of their hands
- HeadMouse translates natural movements of a user's head into directly proportional mouse pointer movement – move your head and the mouse pointer follows along
- Utilizes on-screen keyboard which is built in to all computers
- User wears a reflector dot on glasses, forehead, hat etc in order to interact with the headmouse camera

GlassOuse
Eyegaze

- Allows user to operate computer via eye movement
- Insurance may cover entire or some portion for these systems
- Can’t be ordered in advance—it has to be a current medical need
Build your own Eyegaze

- **Android Tablets or Windows PC’s**
  - Eye Gaze Access Bar
    - From $149.00 - $2,000.00
    - Eye gaze software already incorporated into Windows 10
  - **Software**
    - Text to Speech
      - From free to $800.00
    - Mouse (Dwell software)
  - **Mounting**
    - From $300 - $1,200
Wheelchairs
Seat Elevators for Wheelchairs

- Allow Independent Safe Meal Preparation
- Allow Independent / Less Assisted Transfers
- Aides for Daily Living (ADL’s) --shopping
- Independent Home ADL’s (Housekeeping, Access)
- Vocational Requirements
- Social Interaction
  - Gets the user to eye height of others
- Not covered under Medicare
  - Considered caregiver convenience
  - Check your DME policy if you have private insurance
Wheelchair controls

• With progressive neurological diseases, wheelchair controls will change throughout time.
ECU Control on Power Wheelchairs

- ECU control on power wheelchairs allows the client to use their joystick, single switch, or head array to access a communication device, computer, or cell phone.

- Complex power wheelchairs that have multiple seat functions have basic ECU functions:
  - Mouse emulators
  - More advanced could be Bluetooth enabled
    - Enables access to AAC, computer, phones, and tablet
    - Android and iOS based programming for wheelchair electronics

- Check with the client’s wheelchair vendor for ECU information (may be included or an upcharge)
Transfers

- Different techniques depending on how much PALS is able to help
  - PALS needs to be able to assist to prevent caregivers from getting hurt
Patient Transfer Lift

Patient lifts are used for transfers when a person requires maximum assistance to get into and out of bed.

- A pad fits under the person's body in the bed and connects with chains to the lift frame. A hydraulic pump is used to lift the person off the bed surface.
- Once the person is suspended in the air, the lift can be maneuvered to a wheelchair or another surface by pushing the lift on its wheels. A wheel mechanism is slowly turned to lower the person into a seated position. The pad will stay under the person, but the chains are disconnected.
- Lifts require significant space to maneuver in a home, and a caregiver must be able to operate them alone.

Source:

www.Caringforagingparents.com
Ceiling Lifts

- What they are
  - Track mounted on the ceiling (or a portable system uses 2 posts to suspend the track) with a battery powered motor that lifts the senior in a sling.
- They allow the PALS to move between hospital bed, wheelchair and commode.
- Some people just use a simple 2 post portable system over their bed to transfer between bed, wheelchair and commode.
- Others have a more extensive track going from bed to bathroom - over toilet and over bathtub.
- This allows them to use the bathroom and to access a bathtub.
- Easy to use - Simple controls (some just have on/off and up/down - which is all you really need)
- Weight capacity - Make sure the PALS is within the weight capacity of the lift
- Long enough track - If it is a permanent track installed on the ceiling, make sure you have enough room beside bed to put wheelchair and commode
2 Post Lift System: (Portable)

- Smaller track but not permanently installed into ceiling
- Typical installation is over a bed to transfer between bed, wheelchair and commode
- A second 2 post lift system could be installed in the living room to transfer into recliner chair. It is also possible to use the same electric motor for both which saves money but is less convenient.
- Great short term solution and is both easier and safer to use than Hoyer lifts.
Toilet Safety

Examples:
Bidets

- Can be added to existing toilets
- Not covered under insurance
- Approximately $400+
- HUGE quality of life device
- Cleans and dries if you opt for one with a dryer
Rolling Shower Chair
Tub Transfer Bench
Tub Transfer Systems
Shower Assistance

- Tub Seat
- Hand wand
- Shower ramps
Fawssit (portable shower)
Feeding Assistance
Drinking Assistance

- Lack of hydration
  - Increased secretions
  - Constipation
  - Hospitalization
  - Inglis $65.00
  - Extra long straws
Hospital Beds
Stair Glides
Indoor Wheelchair Lift
Ramps

- Wood vs. steel/aluminum
- Wood is permanent
- Steel/aluminum can be easily removed
  - Rent, lease, purchase
- Wood may need permits
- Steel/aluminum do not need permits
  - Recommend you check with local gov’t office
Portable Ramps
Not every house is ramp-able
Stairlifts for outdoor use
Transportation

• Can the individual still transfer into a car?
  – If using a car, the PALS needs to use a companion or manual wheelchair that can be folded and put into trunk
  – Power wheelchairs can NOT break down and are not transportable in a car
• Need specialized van
Handicapped Accessible Vans

- Can be used to transport a person in a wheelchair without them getting out of the chair
  - Can be rented, purchased, or leased
  - Approximate price (new) $45,000
Alternative Gaming

- Microsoft X Box Accessible Gaming Controller
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