



# What's Out There? High-Technology AT Devices and Basic Functions

As a result of this presentation, learners will be able to:

1. Differentiate between high-tech and low-tech AT options
2. Give examples of high-tech devices for various needs areas
3. Select appropriate high-tech solutions when given a case
4. Describe the importance of person-centeredness in high-tech AT use with older adults

## High-Tech vs Low-Tech

- High-Technology: devices that are more expensive, often complex, and relatively difficult to make and get ahold of <sup>(1)</sup>
- Low-Technology: simple to use, easy to use, and relatively simple to obtain devices <sup>(1)</sup>
- Choosing depends on
  - The person
  - Their needs and desires
  - Device functions

## High-Tech AT for the Bedroom

- Talking alarm clock (e.g. Reminder Rosie)
- Hospital bed
- Smart motion sensors
- Smart bed exit alarms

## High-Tech AT for the Kitchen

- Medication dispenser
- Pill bottle smart caps
- Stove and refrigerator smart sensors

## High-Tech AT for the Living Room

- Smart blinds
- Hub devices (e.g. Amazon Echo)
- Visual hub devices (e.g. Amazon Echo Show)
- Voice TV controls
- Adaptive TV remote
- Loop amplification system
- Robot vacuum

## High-Tech AT for Entry

- Video doorbell (e.g. Ring)
- Smart electronic door opener
- Smart locks
- Door open sensors

## **Applications**

- Ride sharing
- Medical care apps (e.g. schedule and med list)
- Video chatting
- Grocery ordering and delivery
- Hearing aid apps
- Transcription/captioned calls
- Voice to text
- Cognition apps
- Reminders and lists
- Alternate launcher apps (android centric)

## **Smart Home Modifications**

- Smart light bulbs
- Smart light switches
- Smart thermostat
- Smart plugs
- Fall sensors
- Motion detectors
- Smart smoke and CO detectors

## **High-Tech Communication and Access**

- Smart phones and adaptive smart phones
- Tablets
- Adaptive phones (captioned, amplified, speed dial buttons, amplified or adapted ring)
- Adaptive keyboards
- Adaptive mouse
- Adaptive access (switches, joysticks, gaze sensors, head motion detectors)
- Communication devices (dedicated devices, software)
- Pen reader/recorder

## **Miscellaneous High-Tech Devices**

- Wander alarms
- GPS devices
- Activity monitors and health tech
- Complex mobility devices
- Security systems and cameras
- Robotic dining companion
- Sonar navigation bracelet
- Talking or smart scale

## High-Tech Case Study

Andy is an older adult power wheelchair user who lives in suburban Minnesota. He has a history of an old CVA which has left him with residual sided weakness and vision deficits. At the time of his referral to LLTS, Andy was experiencing difficulty with use of his phone and computer, limiting his ability to communicate with loved ones virtually.

- Review the high-tech AT options we have gone over and pick 2 items that could support Lucille as she ages in place.
- Can you think of any other high-tech AT devices that you know of that may be useful in this case?

Andy worked with an occupational therapist at LLTS to assist him with his needs and help him be as independent as possible. Devices that they used included a smart phone with voice access features and an Amazon Echo that was set up to assist him with answering the phone. The OT also assisted him in modifying his desk setup to make it easier to use the computer. Andy is now much more independent in his phone use and general virtual communication.

## Key Takeaways

- Low-tech or high-tech AT should be chosen based on the person, their wants and needs, and device functions
- Many different types of high-tech AT exist for an assortment of functional concerns
- Selection of high-tech AT should be done in a person-centered manner, emphasizing autonomy

### **Reference**

1. Cook, A. C. & Polgar, J. M. (2015). Assistive technologies: Principles & practices. Mosby, an imprint of Elsevier Inc.