



Brain Injury Conference
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2025 North Carolina Brain Injury Conference

Empowering Independence:
Harnessing Commercial Assistive
Technology for Enhanced Daily Living

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Introduction

Occupational Therapist with 20 years of experience

Currently work at Carolinas Rehabilitation Main in Charlotte on the Brain Injury team

Assistive Technology Professional, Certified Brain Injury Specialist, Certified Stroke Rehabilitation Specialist

Objectives

Identify	Describe	Review	Identify
-Identify assistive technology readily available in the community.	-Describe the potential applications of assistive technology in home and community settings.	-Review the benefits of assistive technology in enhancing independence in daily life.	-Identify access options for obtaining assistive technology.

Disclaimer

-I have no affiliation, nor do I receive compensation for any of the products discussed

-I have not personally trialed all the items discussed here but hope to provide an assortment of available assistive technology

-This presentation is meant to be a glimpse at items available and not deep exploration



What is Assistive Technology?



- An intervention to improve a persons' performance, enable participation or maintain meaningful engagements
- Can be as simple as velcro fasteners to complex computer software
- Bridges the gap between what the person wants and needs to do and what they are capable of
- Technology may be limited by the user's ability to implement it

Why is it important?



Increases Independence



Improves functional outcomes



Increases safety, both in the community and at home

Commercially Available Products

- These items can be purchased within the community
- Are not necessarily developed for individuals with disabilities
- Do not require insurance or prior authorization to get
- Hopeful easy to use, set up and have technical support available

Human Activity Assistive Technology Model

- HAAT model- Humans are completing and activity, in a context with assistive technology.
- This is where utilizing a professional may be helpful in linking technology with a person and educating on its use/applications

* Cook et al.

Assistive Technology for Everyday Use

- | | |
|---------------------------|----------------------|
| •Dressing | •Door Openers |
| •Smart Medication | •Smart Thermostats |
| •Smart Assistants | •Smart Window Shades |
| •Smart Plugs | •Adaptive Gaming |
| •Smart Lights | •Apple |
| •Smart Kitchen Appliances | •And many more! |

Dressing

Several popular clothing brands offer adaptive dressing options, catering to individuals with various physical disabilities or challenges. These brands focus on providing clothing that's easier to put on or take off, offering features like magnetic closures, Velcro, side openings, and elastic waistbands

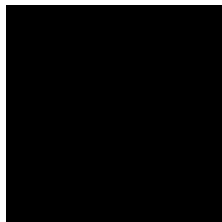
Tommy Hilfiger Adaptive

- oFull line of clothing for men, women, and children
- oIncludes magnetic closures that look like buttons, adjustable hems and additional modifications



Magna-Ready

- oFull line of clothing for men, women, and children
- oAll clothing items have magnetic closures that look like traditional clothing
- oClothing made specifically to worn in a seated position for wheelchair users
- oWash and wear
- oFor individuals with limited mobility and dexterity
- oIncludes business, casual and leisurewear.



Smart Adaptive Clothing

- oFull line of clothing for men and women
- oFocuses on more business casual clothing



Zappos Adaptive

- oZappos is a shoe website that has a page dedicated to adaptive shoes. Brands include the following among others:

Billy Footwear



Skechers- Hand Free Slip- Ins



KIZIK Footwear



Nike

- oNike has a line of adaptive shoes.
- oThese include Air Jordans
- oMen's, women's and children
- oAthletic shoes including cleats



Smart Medicine Dispenser

Smart Medicine solutions focus on ease of use, clear organization, and reminders to ensure the correct medication is taken at the right time.



MedMinder



PillDrill

Smart Home

Smart home appliances are designed to make everyday tasks more convenient and efficient by using automation, remote control, and intelligent technology.

Smart Assistants

Amazon, Google and Apple all have smart assistants/speakers that assist with home automation (controlling other items in your home)

Amazon Alexa



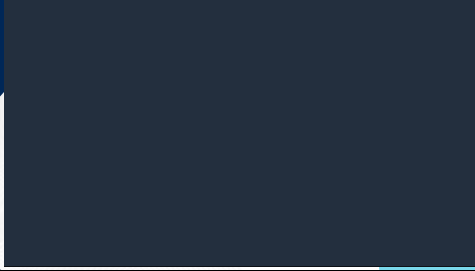
Google Nest Hub



Apple HomePod



Examples of Alexa



Smart Plugs

Smart plugs work with the previous Smart Assistants to make any device that plugs in into smart device

Amazon Smart Plug



TP-Link Kasa

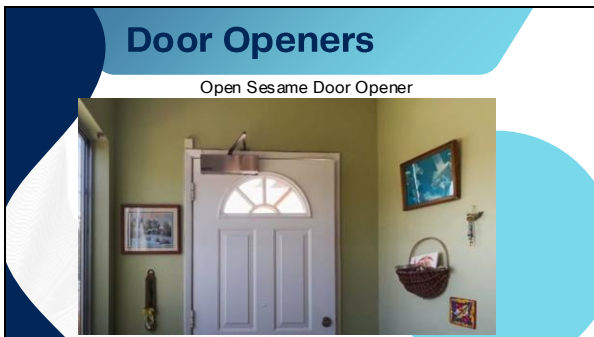


Examples of Smart Plugs









Thermostats

Smart thermostats are a great way to improve your home's energy efficiency, comfort, and convenience. They allow you to control the temperature remotely, learn your preferences, and adapt to your routine automatically.

Nest Thermostats learns your schedule and adjusts automatically



Smart Blinds

Smart blinds allow you to control the amount of natural light entering your space, increase privacy, and improve energy efficiency – all remotely via an app or voice commands.



Serena Shades by Lutron

Ikea Fyrtur Smart Blinds

Adaptive Gaming

Makes video games more accessible and enjoyable for a broader range of players, especially those with disabilities. The idea is to adapt or modify gaming experiences to meet the diverse needs of players, enabling them to engage with games in ways that are comfortable and fair.

PS5- Access Controller



XBOX Adaptive Controller



Apple

Apple has long been a leader in providing **assistive technology** to make its devices accessible to a wide range of users, including those with disabilities. The company has integrated numerous features into its devices – iPhones, iPads, Macs, and more – that help users with visual, hearing, motor, and cognitive impairments.



Where to get it?

- All of these items are available commercially
- Amazon, item websites, chain stores
- The end of the presentation has a list of all the websites discussed today



But I need more help

- North Carolina Assistive Technology Program - NC has 9 centers across the state
- Professional services, such as Best Buy's Geek Squad, and gig services, like Angi and TaskRabbit, offer installation services nationwide
- Contact your local Assistive Technology Professional to help match items with needs (RESNA directory)

Websites of items

CLOTHING

- Tommy Hilfiger Adaptive- <https://usatommy.com/en/tommy-adaptive>
- Magna-Ready- <https://magnaready.com/>
- Smart Adaptive Clothing- <https://smartadaptiveclothing.com/>

SHOES

- Zappo Adaptive- <https://www.zappos.com/cf/adaptive>
- Nile- <https://www.nile.com/w/mens-easy-on-offshoes>

SMART HOME

Assistance/speakers

- Amazon Alexa- <https://www.amazon.com/alexa>
- Google Nest Hub- https://store.google.com/us/product/nest_hub_2nd_gen?hl=en-US
- Apple HomePod- <https://www.apple.com/homepod/>

Plugs

- TP-Link <https://www.tp-link.com/us/home-networking/smart-plug/>
- Amazon Smart Plug- <https://www.amazon.com/amazon-smart-plug-works-with-alexa>

Websites of items

SMART HOME

Appliances

- Samsung Family Hub Refrigerator- <https://www.samsung.com/us/explore/family-hub-refrigerator/overview/>
- June Oven- <https://juneoven.com/pages/smart-oven>
- Roomba Vacuums/Mops- <https://www.irobot.com/>

Door Openers

- Open Sesame- <https://www.opensesamedoor.com/>

Doorbell

- Blink- <https://www.amazon.com/Blink-Video-Doorbell/>
- Arlo- <https://www.arlo.com/>
- Ring- <https://ring.com/>

Thermostats

- Nest- [Log into the Nest app](#)

Websites of items

SMART HOME

Shades-

- Lutron- [Custom Smart Blinds and Shades | Serena Shades by Lutron](#)
- Ikea Fyrtur Smart Blinds- [Motorized Blinds - Automatic Smart Electric Blinds - IKEA](#)

Gaming-

- Playstation 5- Access Controller- [Access controller | A customizable, adaptive controller for PS5 | PlayStation 4/PS5](#)
- X-Box Adaptive Controller- <https://www.xbox.com/en-US/accessories/controllers/xbox-adaptive-controller>

Medicines

- MedMinder Smart Pill Dispenser- [MedMinder Personalized At-Home Pharmacy](#)
- Pill Drill- [Home](#)

Apple

- Apple Accessibility- [Accessibility - Apple](#)

Programs

North Carolina Assistive Technology Program- [North Carolina Assistive Technology Program | NCDHHS](#)

Geek Squad- [Services - Best Buy](#)

RESNA- [Certified Professionals Directory](#)

References

-AJOT, November/December 2016, Vol. 70, Assistive Technology and Occupational Performance

-American Journal of Occupational Therapy- Assistive Technology and Occupational Performance.

-Cook, A. M., Polgar, J. M., & Encarnação, P. (2020). *Assistive technologies: Principles & practice*. St. Louis, MO: Elsevier.

-Kruise, David, et al. "Assistive Technology's Potential to Improve Employment of People with Disabilities." *Journal of Occupational Rehabilitation*, vol. 34 no. 2, 2024, pp. 299-315. doi:10.1007/s10926-023-10164-w.
