



Utility of a Virtual Voice Assistant  
for Individuals with TBI:  
Applications, Limitations and  
Considerations



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The Brain Injury  
Association of  
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At the end of this presentation, participants will be able to:

- Identify three ways that a virtual voice assistant can be useful to a person with brain injury.
- List three concerns regarding the use of a virtual voice assistant.
- Discuss limitations specific to survivors of brain injury in using a virtual voice assistant.



# Overview of what's currently available

- Devices
  - Amazon
  - Google

# Uses for persons with brain injury

- Control environment
- Reminders / alarms
- Contacts
- Routines
- Skills
- Games
- Entertainment
- Information



# Concerns regarding use of Virtual Voice Assistants

- Technology aversion
- Privacy
- Learning to use
  - Choice of words
  - Approach - “Simon Says”



# Concerns specific to brain injury

- Learning/memory
- Speech
  - Volume
  - Rate
  - Fluency
  - Word finding
- Comprehension
- Problem solving/perseveration
- Frustration tolerance



# Case study: Robert

- Age 52
- Premorbid career in engineering
- Total blindness bilaterally
- TBI in 2002
- Profile:
  - Behavioral dyscontrol with aggression
  - Sensitivity to sound
  - Issues with nonreality
  - Fluctuating orientation to place and time
  - Executive dysfunction
  - Some memory impairment
  - Reduced speech volume



# What are some potential uses of Alexa for Robert?

- Control environment
- Reminders / alarms
- Contacts
- Routines
- Skills
- Games
- Entertainment
- Information



# Limitations in Robert's use of Alexa

- Lack of premorbid technology skills
- Memory
- Reality orientation
- Fear of trying something new
- Lack of initiation

# Actual utility of Alexa

- Music, news, comedy, orientation with staff setup
- Will give voice commands with direct staff cueing



# In conclusion...

- A virtual voice assistant can be useful to a person with brain injury in a variety of ways.
- There are significant concerns regarding the use of a virtual voice assistant with clients with TBI.
- Survivors of brain injury face significant challenges in using a virtual voice assistant.
- Support in utilizing a virtual voice assistant is critical, and may need to be intensive and long lasting.



*Questions?*

