Brief Overview and Introduction to: Augmentative and Alternative Communication (AAC)

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A little bit about me…

- **Studied Speech-Language Pathology at Duquesne University in Pittsburgh, PA (Undergraduate and Masters degrees)**

- **Speech-Language Pathologist at Good Shepherd Rehabilitation Hospital in Allentown, PA**
  - Inpatient Rehab
  - Outpatient Rehab
  - AAC evaluations
  - Outpatient communication group

RANGOS SCHOOL OF HEALTH SCIENCES
Speech-Language Pathology
DUQUESNE UNIVERSITY

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What about you?

- **Who is familiar with the roles/scope of speech-language pathology (SLP)?**
- **Who is familiar with augmentative and alternative communication (AAC)?**
- **Who knows someone or works with someone with complex communication needs?**

How do we communicate?

- **Verbal expression**
  - Speech
  - Over the phone, video chat
- **Written expression**
  - Writing via pen/paper
  - Typed message: email, texting, printed, online, social media, etc.
- **Gestures**
  - Head nods/shakes, waving, thumbs up/down, winks, etc.
  - Sign language
  - Pantomime gestures
- **Pictures, symbols**
  - Signs: traffic signs, street, navigations, listing precautions
  - Social media, sharing with family/friends
  - Accompanying text/words

Individuals with Complex Communication Needs (CCN)

- Any individual who requires a nontraditional route (i.e., cannot rely on verbal expression as their main modality of communication) to communicate resulting from significant speech, language, and/or cognitive impairments.

- These individuals often require a team of professionals, including a SLP, to develop a personalized system of alternative communication means to increase the individual's opportunity to successfully communicate their wants, needs, and ideas and participate in social exchanges.

What is AAC?

"AAC involves attempts to … compensate for temporary or permanent impairments, activity limitations, and participation restrictions of individuals with severe disorders of speech-language production and/or compensation, including spoken and written modes of communication." (ASHA, 2005)

AAC

- **Individuals with CCNs often require a full AAC system to effectively communicate**
  - Cannot rely on just 1 modality of communication
  - Often switch between multiple modalities of communication, just like you and I would
  - For example: Tim uses a combination of speech, gestures, and a picture board throughout his day to effectively communicate.
  - Another example: Even though her voice is so quiet, people can understand Grace's speech in a quiet environment, but when she goes to a crowded place with a lot of background noise or talks to her elderly grandmother with hearing loss, she uses a voice amplification device and brings a write board to write out messages if needed

Types of AAC symbols (unaided vs. aided)

- **Unaided:** any communication symbol that can be expressed by using your own body and nothing else
  - Speech
  - Facial expressions
  - Gestures
  - Sign Language
  - Pointing
  - Eye movements and/or blinks
  - Finger spelling

Types of AAC symbols (unaided vs. aided)

Aided: any communication symbol uses a tool or device

No-tech

- Pen/paper
- Whiteboard
- Letter board
- Picture board
- Object symbols
- Drawing
- Printed pictures/photographs
- Braille
- Eyegaze board
- PECS

Low-tech to Mid-tech

*simple devices/tools with a static display, typically operated by batteries & rely on recorded speech

- Big Mack
- Step-by-step
- GoTalk devices
- ProxTalker
- Voice Amplification

High-tech

*complex speech-generating devices with a dynamic display, typically with a rechargeable battery & mainly utilizes synthesized speech

- Tobii Dynavox I-series devices
- Prentke Romich company Accent
- Lingraphica TouchTalk

Examples of no-tech devices

A	B	C	D	*pain*	
E	F	G	H	*need*	
I	J	K	L	M	N
O	P	Q	R	S	T
U	V	W	X	Y	Z
SPACE			*DELETE*		*#*

Communication Board

PECS book

Eye Gaze Board

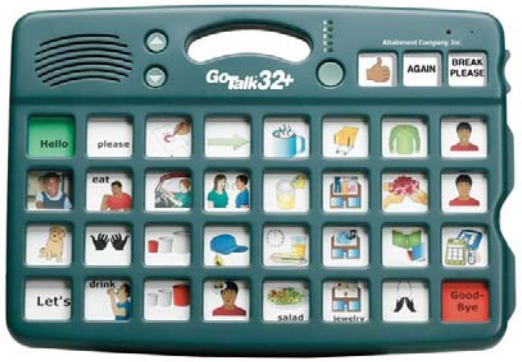
Examples of low to mid tech devices

Tobii Dyanvox Lightwriter

Big Mack

Step-by-Step

ProxTalker



GoTalk devices

Examples of high-tech devices

PRC Accent

iPad with
Proloquo2go software

Tobii Dyanvox I-series

Lingraphica TouchTalk

Speech generating devices: voicing options

Digitized speech: natural speech that has been recorded, stored, and reproduced.

Synthesized speech: artificial production of human speech, generated by the communication device

Voice banking: Can be digitized (have the individual record phrases or words to be played by the SGD) or synthesized (individual records many different phonemes/sounds with software and the voice generating the synthesized speech will sound close to the individuals actual voice

- Often used in progressive cases (e.g., ALS)

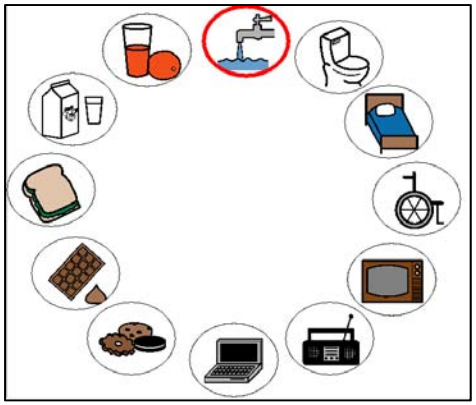
Another barrier to communication….
Physical **access**

There are 2 general access methods for AAC

- **Direct selection:** accessing the target directly by pointing in some capacity; more efficient & less cognitively demanding
  - Pointing
  - Touch access with a touch screen
  - Head mouse
  - Eye gaze

- **Scanning:** either a communication partner or a device lists options in some capacity and the user selects which one indirectly; generally less efficient & more cognitively demanding; usually used if only option due to physical limitations
  - Auditory scanning vs. visual
  - Switch scanning
  - Partner assisted scanning

Scanning patterns



Circular: technology displays individual items in a circle and scans them electronically, one at a time, until the individual stops the scanner and selects an item

- simplest scanning pattern

Linear: listing or pointing to one item at a time (in a row if visual) until the individual selects an item

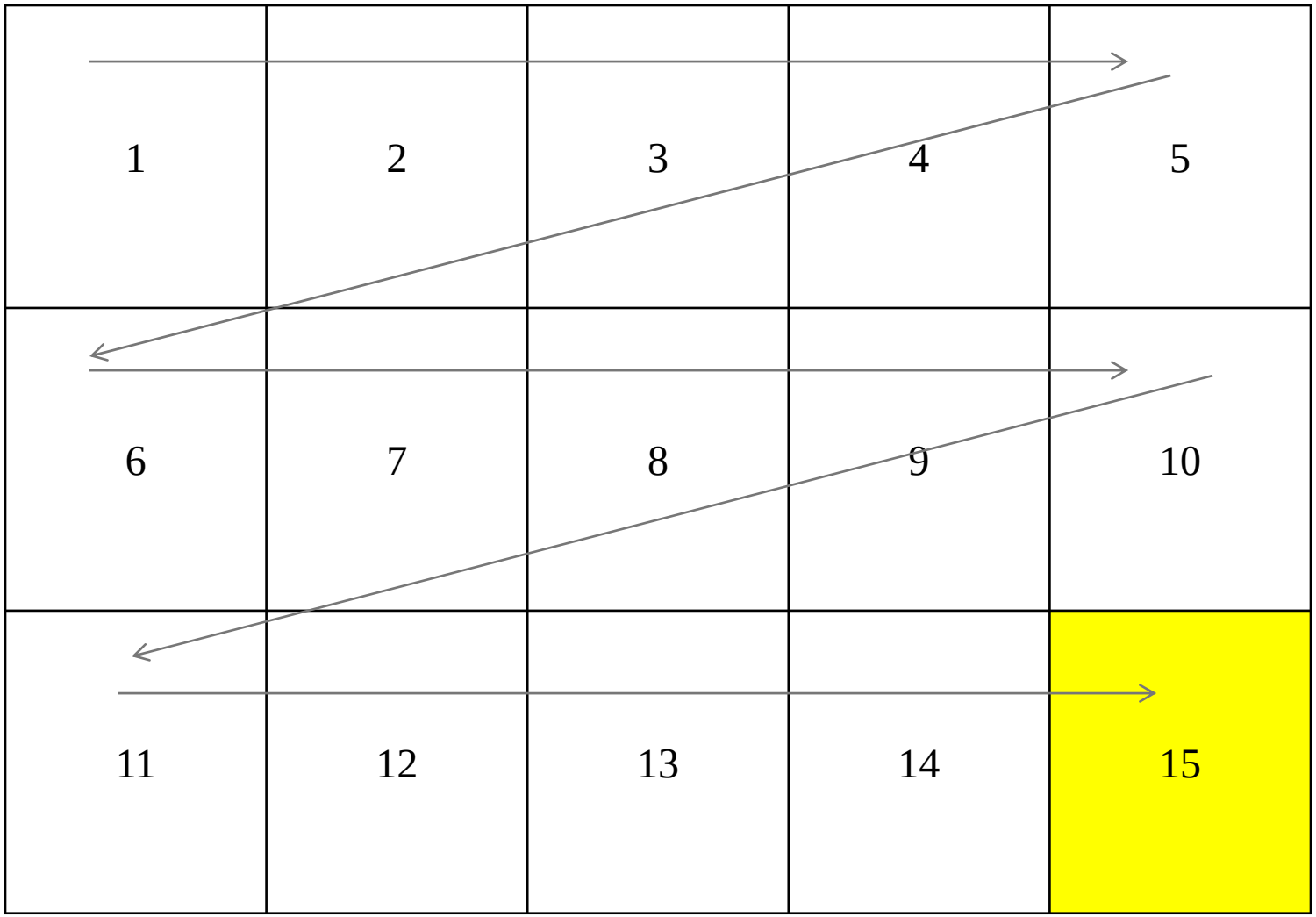
- Visual (aided; no tech to high tech)
- Auditory (unaided or aided; no tech to high tech)

Group-Item: involves identifying a group of items and then eliminating options gradually until the final selection is made

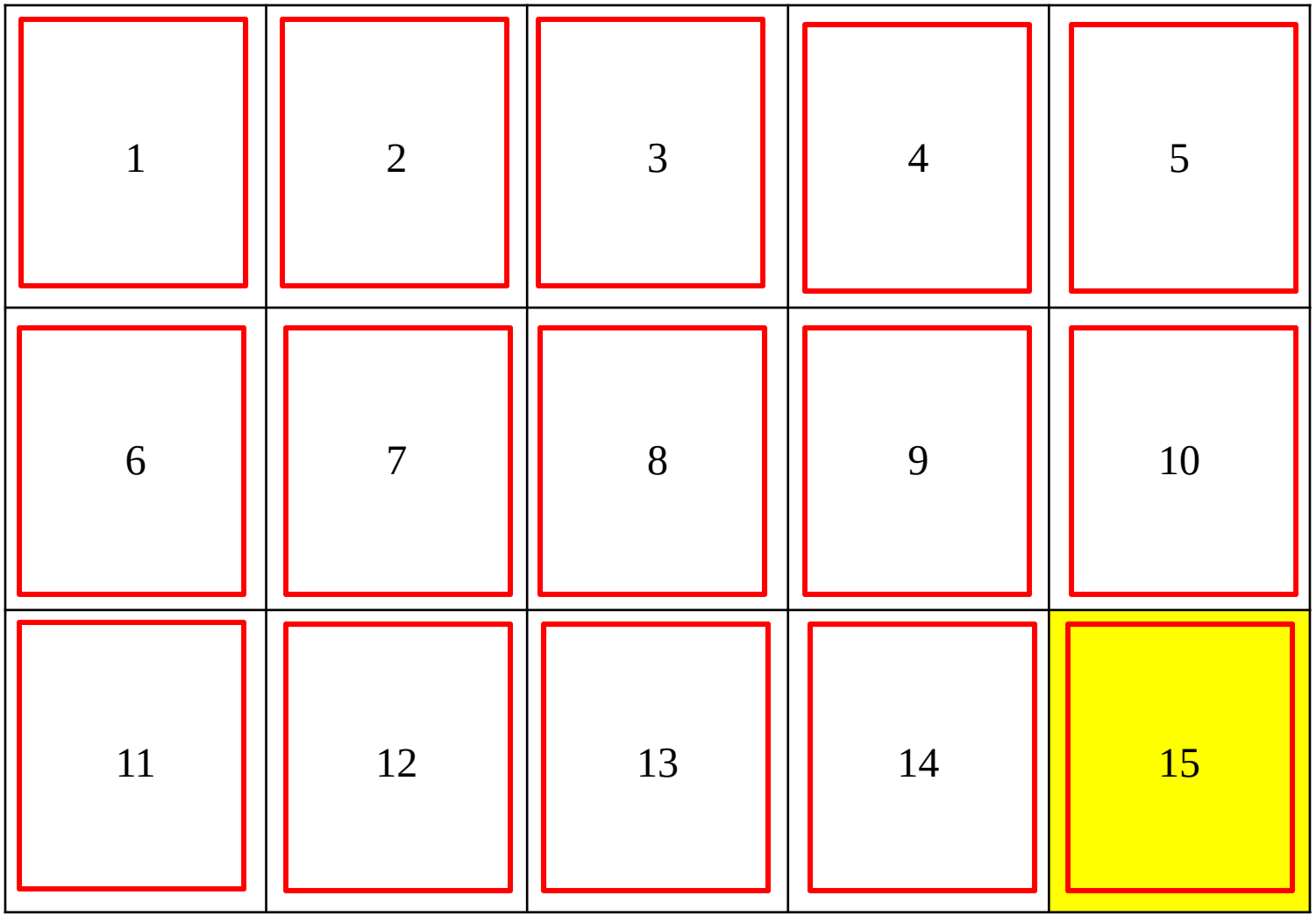
- More efficient
- More cognitively demaning

DEMO of different visual scanning patterns

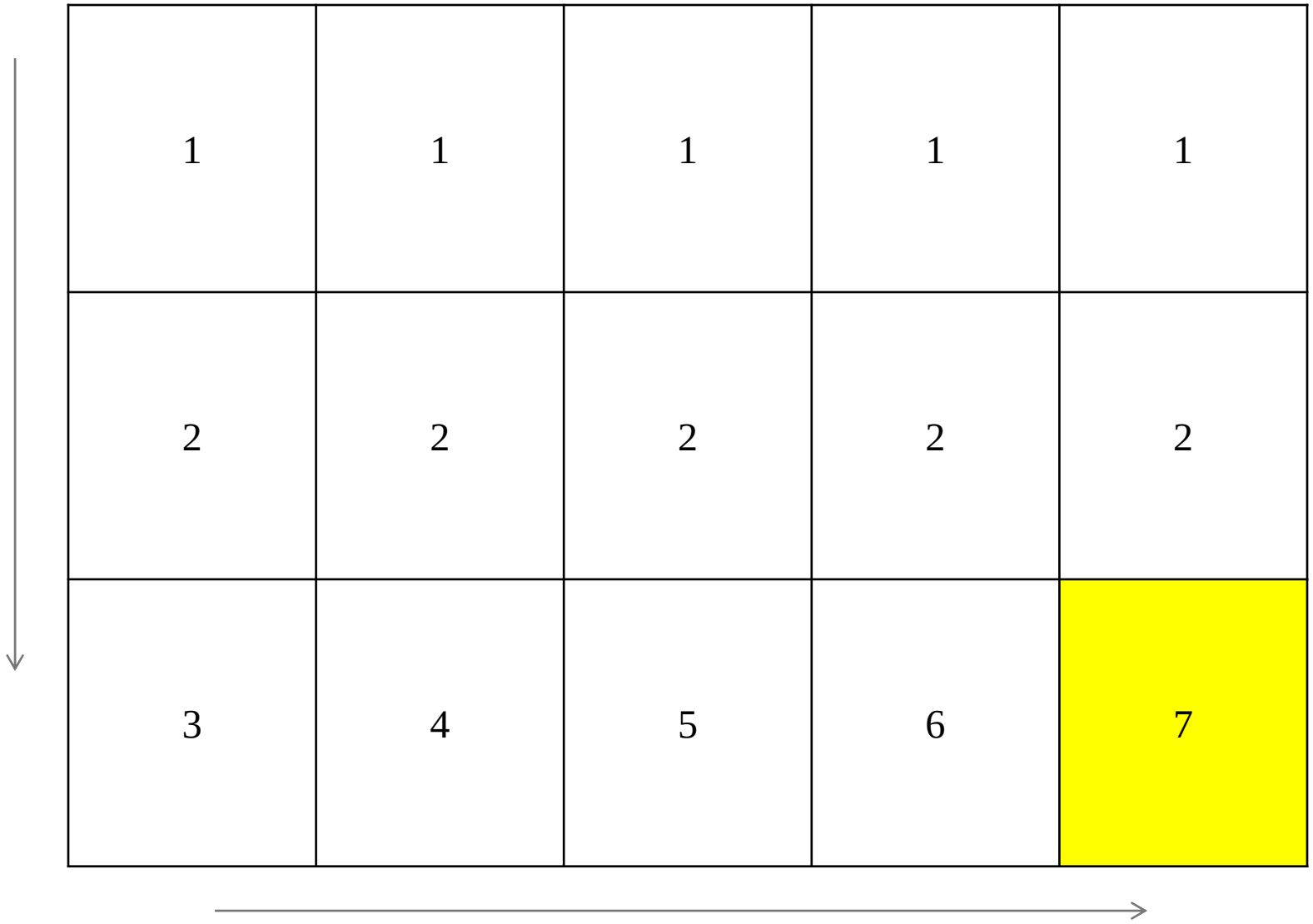
Linear scanning pattern



Linear scanning pattern



Group-item scanning pattern



Group-item scanning pattern

Mounting

- **Table mount**
- **Wheel chair mount**
- **Universal mount**
- **Floor mount**
- **Switch mounting/placement**

Populations

Developmental

- Autism
- Downs Syndrome
- Intellectual Disability
- Developmental Delay
- More…

Acute Onset

- Cerebral Palsy
- Traumatic Brain Injury
- Aphasia (often from a Stoke)
- Locked-in-syndrome
- More…

Progressive

- Lou Gehrigis Disease (ALS)
- Parkinson’s Disease
- Huntington’s Disease
- Multiple Sclerosis (MS)
- More…

Other

- Laryngectomy
- Stuttering/Dysfluency
- Psychological
- More…

Symbol selection considerations

Not all individuals with CCNs will have the same symbolic understanding….

Literate?

- Text-to-speech
- Letter board
- Finger spelling
- Written words/phrases on device

Illiterate/developing or impaired linguistic skills?

- Object symbols
- Picture symbols
- Colored line drawings

So many things to consider!

- Medical diagnosis
- Physical abilities:
  - Fine motor
  - Gross motor
  - Ambulatory status
- Cognitive status
- Language/linguistic status
  - Literacy
  - Symbol hierarchy
- Communication needs
- Living environment
- Communication partners
- Follow-up support

AND MORE!!!

Funding a device

5 Steps of the Funding Process

Consult an SLP

Your Speech-Language Pathologist will conduct an Augmentative and Alternative Communication/Speech Generating Device (AAC/SGD) assessment to determine your communication needs. The SLP will help you determine what type of device is most appropriate for you. In addition, your Local Sales Consultant can provide valuable help to you during this stage of the process. Once your needs are established and a device has been selected, the SLP will complete the AAC/SGD report.

Physician Prescription

After consulting with your SLP, you or your therapist will need to forward a copy of the speech evaluation to your physician. The physician will need to complete and sign a prescription and complete any state Medicaid required forms. It is also recommended to ask your physician to write a letter of medical necessity and provide documentation of your most recent Face to Face.

Complete & Submit Funding Packet

Complete the Tobii Dynavox funding packet, which consists of the Client Information Form, The Assignment of Benefits Form, The Speech-Language Pathologist Evaluation, The Physician's Documentation of a Face to Face Visit, The Physician's Prescription and copies (front and back) of your insurance card(s). Note: Additional documentation may be required for your specific insurer.

Insurance Processes Packet

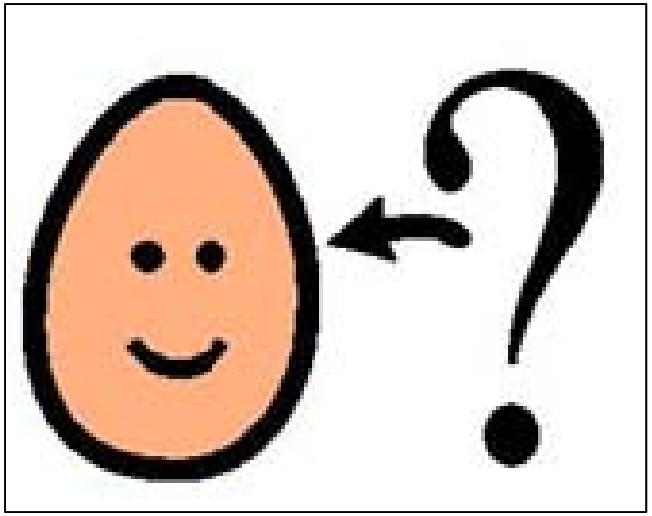
Once the funding packet has been submitted to your insurance carrier(s), the next steps are dependent on the insurance carrier. Most insurers follow a similar process in reviewing funding applications prior to authorizing.

Approval and Shipping

When notified of approval by your insurance carrier, your Tobii Dynavox funding coordinator will proceed with the order and the equipment will be delivered to your address.

Taken from Tobii Dyanvox website: https://efunding.tobiidynavox.com/

Any Questions?



References

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Bloomberg, K. & Johnson, H. (1990). A statewide demographic survey of people with severe communication impairments. AAC, 6, 50-60.

General Websites:

- https://www.tobiidynavox.com/
- https://www.prentrom.com/
- https://www.aphasia.com/
- https://www.asha.org/