



*Eye Gaze: From Evaluation to Treatment*  
*Part 1: Eye Gaze Evaluations*

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**Tell me about you...**

Question 4:

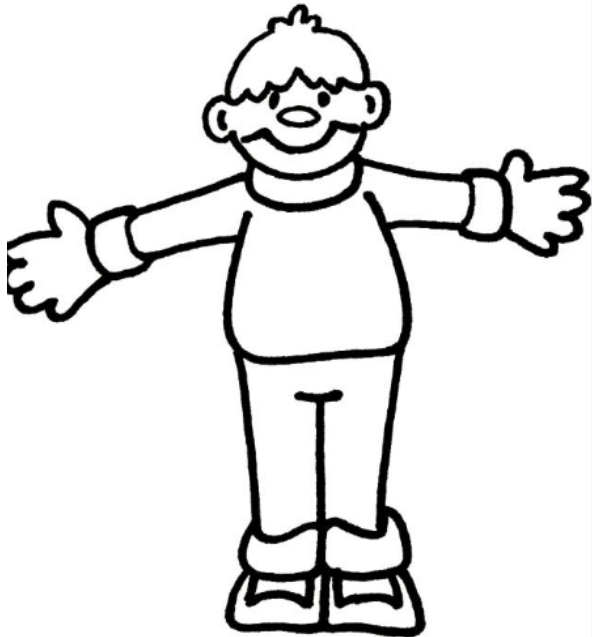
How many of you currently do High  
Tech/Eye Gaze AAC evals?

# Terminology

## Access Method

- How are they interacting with the device?

-Indirect vs. direct Selection

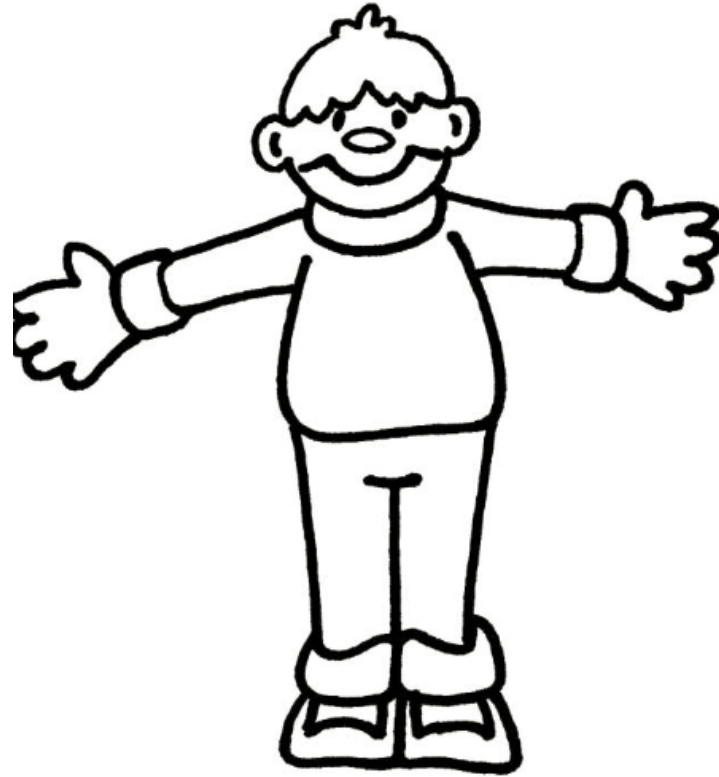


## Helpful Terminology

- Calibration
- Track box/track window/track status
- Input Method
- Feedback (visual/auditory)
- Activation Method or Selection Method
  - Dwell
  - Blink
  - Switch

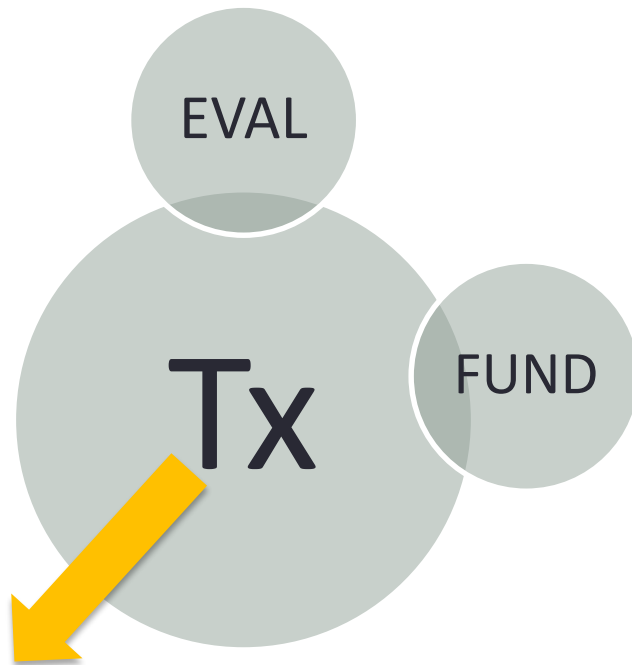
# What have you Ruled Out?

- Access Method: Consistency



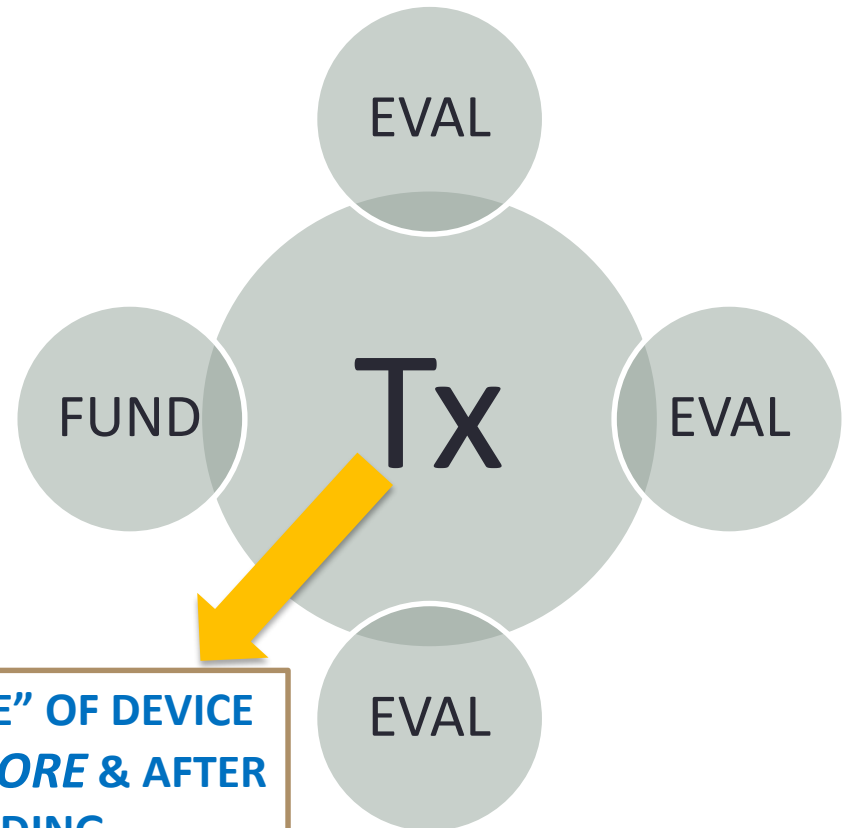
# Eye Gaze Eval to Tx

Literate/Cognitive Adults



**"USE" OF DEVICE  
AFTER FUNDING**

Children/Pediatric



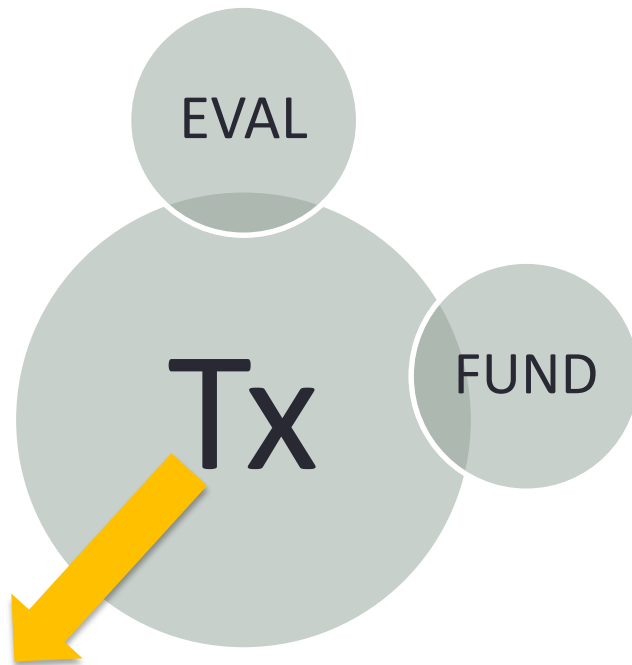
**"USE" OF DEVICE  
*BEFORE* & AFTER  
FUNDING**

# Eye Gaze Evaluations: Prep

- The most important question an evaluator can ask before starting an eye gaze evaluation: Did I examine the validity of the use of all other access methods for my patient?
- Consider the language system.
- Have multiple devices ready.
- The evaluation process for eye gaze can take multiple sessions with children and young adults. =more prep needed
- Literate adults, primarily those with progressive disorders will sometimes have a faster evaluation process for eye gaze. =more pre needed

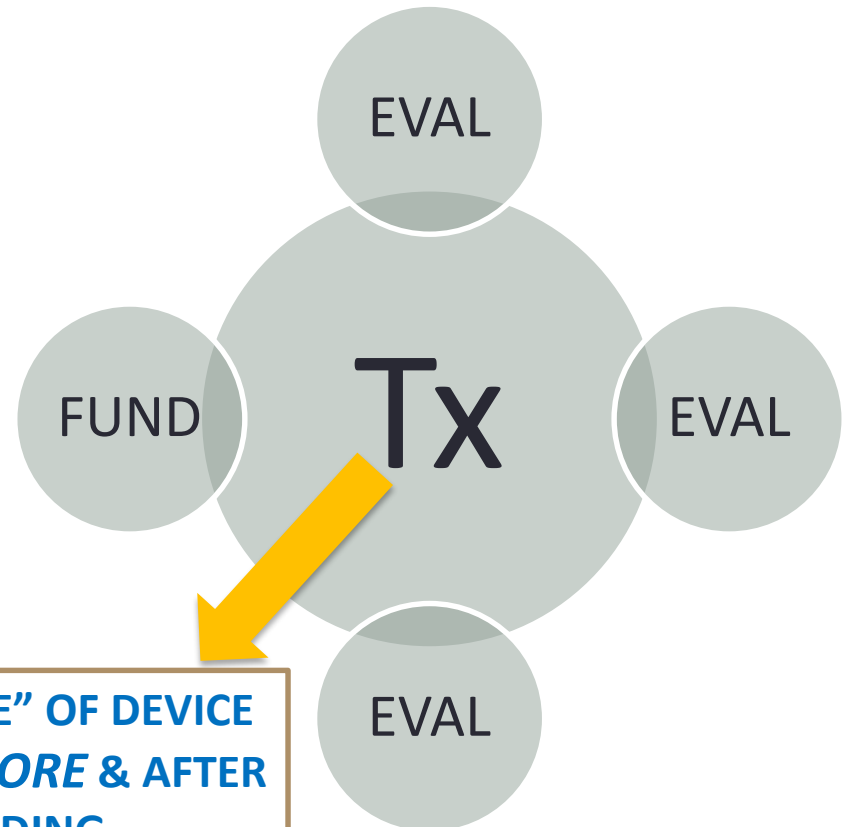
# Eye Gaze Eval to Tx

Literate/Cognitive Adults



**"USE" OF DEVICE  
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Children/Pediatric



**"USE" OF DEVICE  
*BEFORE* & AFTER  
FUNDING**

# Eye Gaze Evaluations: Prep

## Equipment

- Know the tools on your tool-belt.
- Use your local area reps. What is their loaner program for evaluators?
- Know your state and non-profit associations and their resources for borrowing equipment you need.
- Test all equipment prior to evaluation.

## Screeners/Evaluation tools

- Does the device have a built in screener or tools for evaluations?
- Create your own tools





## Choosing the right communication tool...

- Base your tools on the information you expect and need to gain:
  - Physical capabilities?
  - Cognitive capabilities?
  - Language Skills/System? Multiple?
- ❖ Remember choosing the right tool also means matching appropriate documentation.

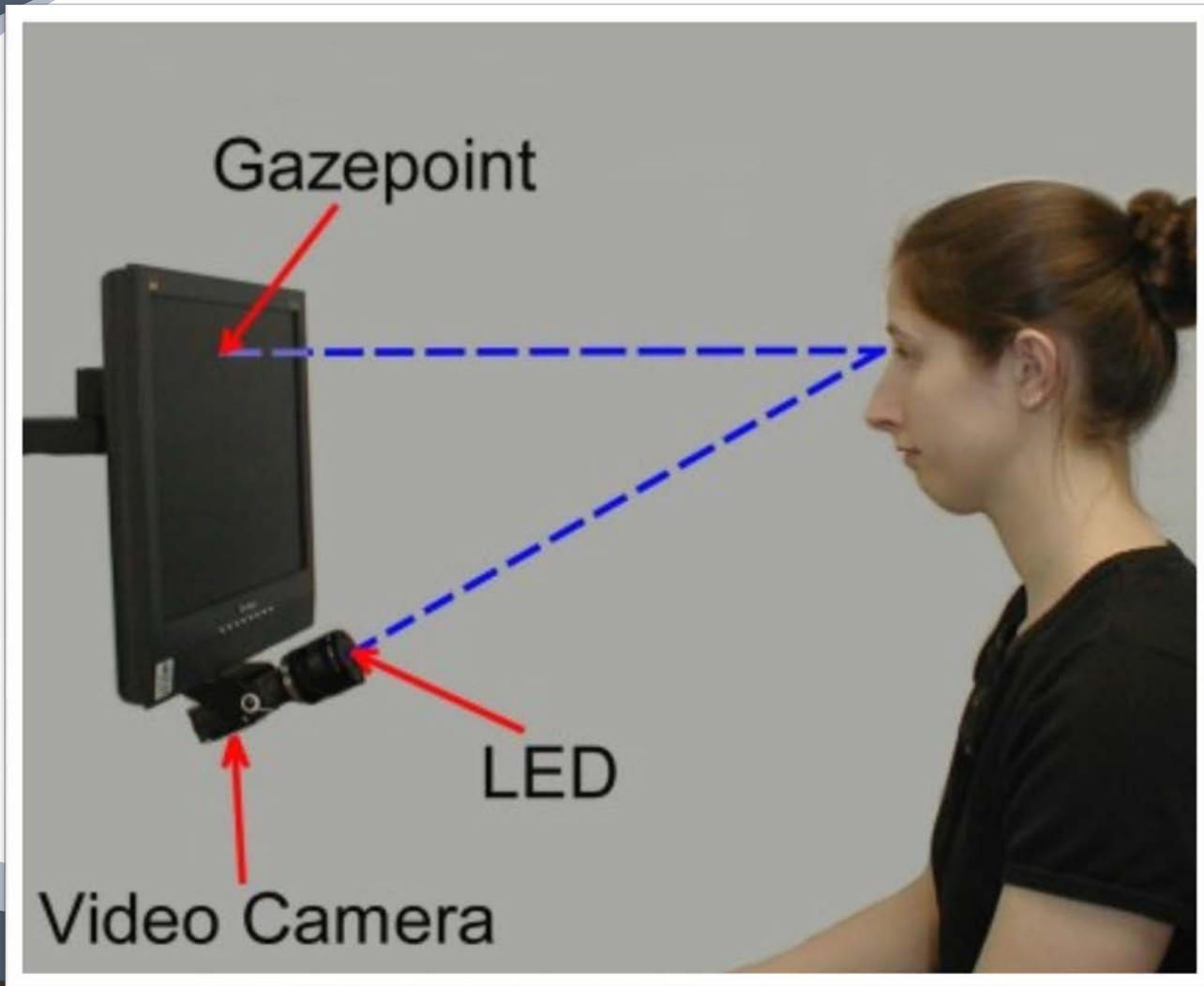
# Screeners/Tools

ESC	←	→	∧	∨	Hom	End	PgU	PgD	-	=	OUT
'	1	2	3	4	5	6	7	8	9	0	DEL
TAB	q	w	e	r	t	y	u	i	o	p	ENT
SHF	a	s	d	f	g	h	j	k	l	;	SHF
	z	x	c	v	b	n	m	,	.	/	Mou
SL	CTL	ALT	SPACE				PSE		←-BACK		

# Calibration

- Know your internal and external tools!
- How do I troubleshoot? ( ex: Resize the calibration window )
- Make adjustments in number of points, size, shape, color, and sound
- **Let's take a look!**





# Calibration Tools: Tobii Dynavox

## Eye Tracking

Functionality to configure eye tracking for the selected profile.

### Calibrate

Perform a calibration based on the current calibration settings.

Track Status

Start Calibration...

Calibration Area...

### Calibration Result



- Low quality calibration. Improve one or more points individually, or recalibrate completely, to achieve better eye tracking results.
- Medium quality calibration. You might be able to achieve better eye tracking results by improving one or more points individually.
- High quality calibration.

Modify the current calibration by selecting calibration points in the plots and then either improve or remove the selected points. Points can only be removed one at a time.

# Calibration Tools: Tobii Dynavox

## Eye Tracking

Functionality to configure eye tracking for the selected profile.

### Calibrate

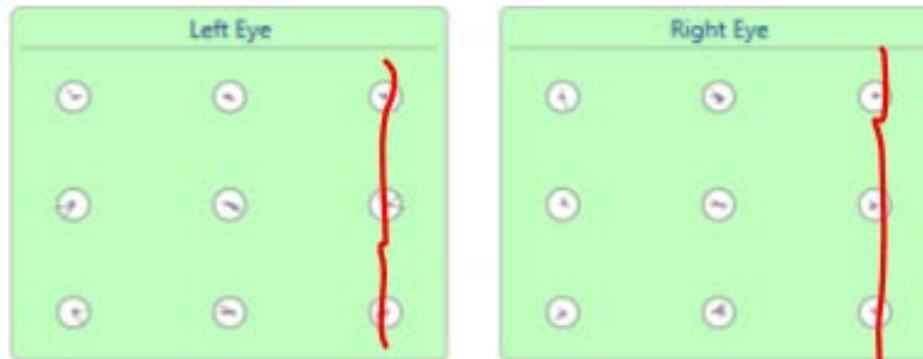
Perform a calibration based on the current calibration settings.

Track Status

Start Calibration...

Calibration Area...

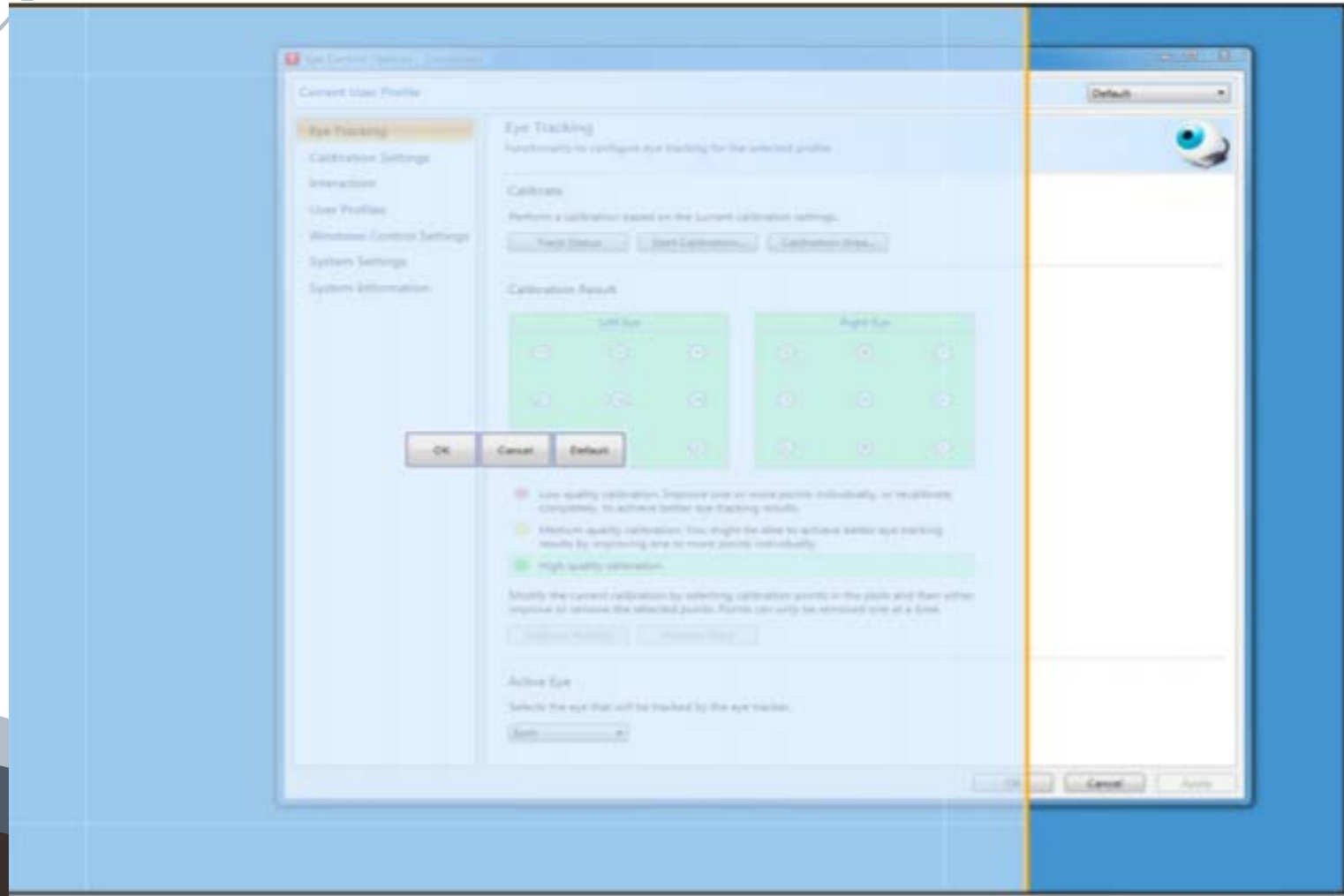
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# Calibration Tools: Tobii Dynavox





*Picture from LC Technologies*



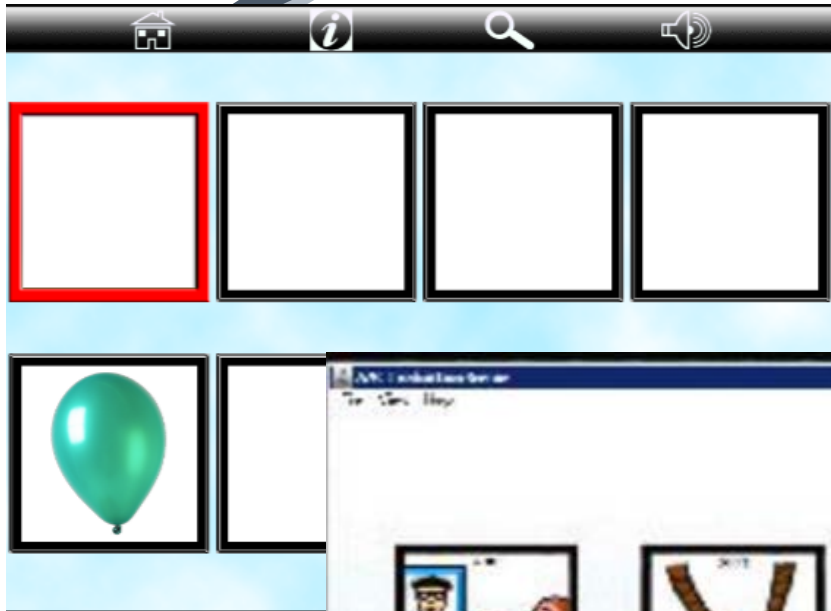


**Tell me about you...**

Question 5:

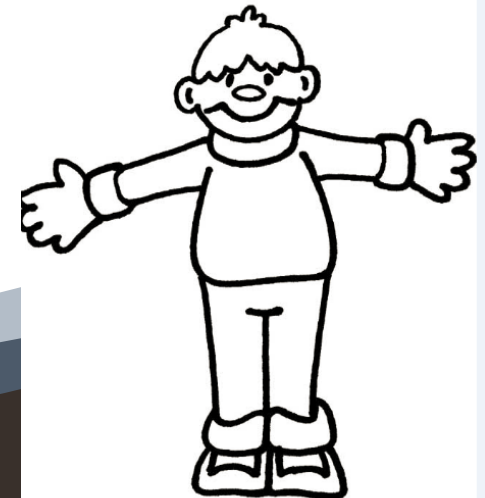
Has any one used the Evaluation Genie App in a regular AAC assessment or screener?

# Screeners/Tools: Eval Genie



# Case Study 1:

- Client B is a 3 year old boy with TBI, specifically an anoxic brain injury. Completely nonverbal, except for cries. He keeps his eyes closed during most therapy sessions, but will open them for changes in environment (i.e. a familiar voice, lights, and sounds etc.). Speech and OT have been working on activating toys with a switch. He can grip switches to activate them, but does not let go. Immediate goals are cause and effect.
- Goal: communication and participation



## Case Study 1: What's the challenge?

**“my favorite  
tool is...”**

**Poor Cognition = NO  
DEVICE or NO EYE GAZE**

**Communication  
or “Yes/No”  
tools come first  
(before other  
AT tools)**

## Sensory Eye FX: Blank Screen Engagement



Sensory Circles



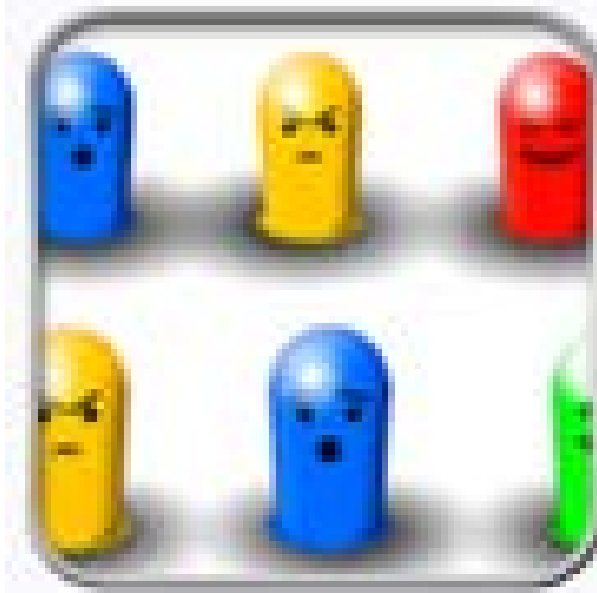
Moving Snake

# Sensory Eye FX: Object Displacement



Hide and Seek

# Sensory Eye FX: Zoned Focusing



Whack

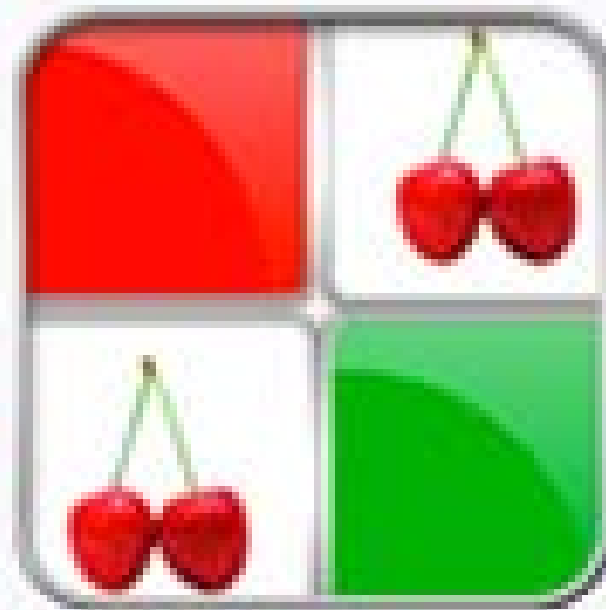
# Sensory Eye FX: Active Exploration



Retro Kit



# Sensory Eye FX: Controlled Targeting

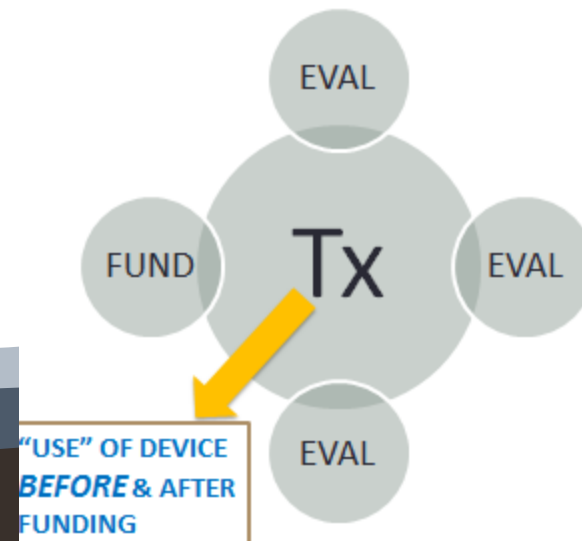


Memory Grid

# Case Study 2: Tools

- Seen in a clinical setting
- Eye Gaze as a multimodal approach to his treatment goals
- Started with a eye gaze training software that utilizes cause and effect activities
- Progressed to simple photographical and pictographical ID “find the”
- ATTENTION ACTIVITY

Children/Pediatric



## Case Study 2:

- Client C is a 16 year old with Rett Syndrome. She has never been able to communicate. When she was younger she had the ability to “hit” a switch but has since lost purposeful movement in her arms/hands. She flails her arms. The school IEP team wishes to discontinue services for speech due to lack of progress in 16 years. School aide reports she is kept comfortable, tube feedings are done at school, and she is wheeled in her stroller chair to “participate” in activities. She can laugh and she follows you with her eyes. You can put a toy in her lap (sensory) and hands. When she finishes with that object she loosens her grip and drops it which signals “I am all done”.
- Goal: Family wishes to communicate with her, but they don’t know how.

# Case Study 3: What was the Challenge?

“No”



## Case Study 3: Emily's Story



## Case Study 4:

- Client is A is a Mid 20 year old male with Traumatic Brain Injury. Received rehab services after injury at the VA and then outpatient therapy at another facility. In therapy he is very uncooperative, often yelling, hitting or lashing out or simply shutting down. He has very limited speech BUT with the correct prompting, can sometimes respond correctly with single mouthed words (in hardly a whisper). Tends to nod his head YES for most answers, but his head “bobs” most of the time like he is listening to music. Uncoordinated UE with high tone. He is transported with a manual wheelchair. Can sit in a recliner chair at home, but is more comfortable in his power wheelchair. Tires easily, but appears frustrated and irritated often. Mom is NOT giving up, as he lives in her home. SLPs involved in his case determined he is not appropriate to use eye gaze because of his behavior and inability to consistently answer yes/no questions.
- Goal: increase communication and use environmental controls

## Case Study 4: What's the challenge?

**Communication only  
happens in the clinic**

**Poor Cognition = NO  
DEVICE or NO EYE GAZE**

**Communication  
or “Yes/No”  
tools come first  
(before other  
AT tools)**

# Case Study 4: Tools

- seen at the home –Why is this important?
  - His territory
  - His Timing
  - His Desire
- Environmental Control: music
- Switch adapted old style game system (pong, asteroids)
- Eye gaze trials (two systems)



# Evaluation Tools



- Sensory FX
- Look to Learn
- Tobii Dynvox Eye Gaze Viewer

# Evaluation Screeners/Tools

Eye Gaze Viewer, Tobii Dynavox



# Selection Method

- Access method vs. selection (activation) method
- Dwell
- Blink
- Switch

# LANGUAGE

- **NO DIFFERENT** from choosing an appropriate language system when using touch as the access method.
- Eye gaze can be done with visual scenes, photographic symbol grids, pictographic symbol grids, and text-to-speech keyboards.
- Remember you are evaluating for the best language system the person can *currently* use when understanding and expressing language.

# Funding Report



# Funding Report

- Keep good records during your evaluation sessions
- The largest area of importance in documentation for an eye gaze device is other access methods and stating why they **do not** work.
  - In order to do this, your evaluation must cover this!
- Join us next time as we delve into the particulars of the “dreaded” funding report.



# References

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<http://www.humpsoftware.com/aacevaluationgenie.html>
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[www.eyegaze.com](http://www.eyegaze.com)

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Patricia Dowden, Ph.D., CCC-SLP, University of Washington,  
Communicative Independence Model

<http://www2.tobiidynavox.com/product/sensory-eye-fx/>

<http://www.sensoryguru.com/product/sensory-eye-fx-software-single-user-license/>