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TD Eye Gaze Pathway for TD I-Series: Instructions & Resources

What is the TD Eye Gaze Pathway?

The TD Eye Gaze Pathway is designed to introduce eye gaze to individuals new to this access method and increase proficiency for those who already use eye gaze but experience access challenges. Through fun activities tailored to individual interests, the TD Eye Gaze Pathway can help increase engagement and grow skills.

TD Eye Gaze Pathway for TD I-Series

https://qrco.de/bfcDul

TD Eye Gaze Pathway Poster

https://qrco.de/bffWDi

What are the steps in the Eye Gaze Pathway?

Step 1

Spark Interest

Step 2

Large Targets

Step 3

Smaller Targets

Step 4

Choice Making

Step 5

Expanding Use

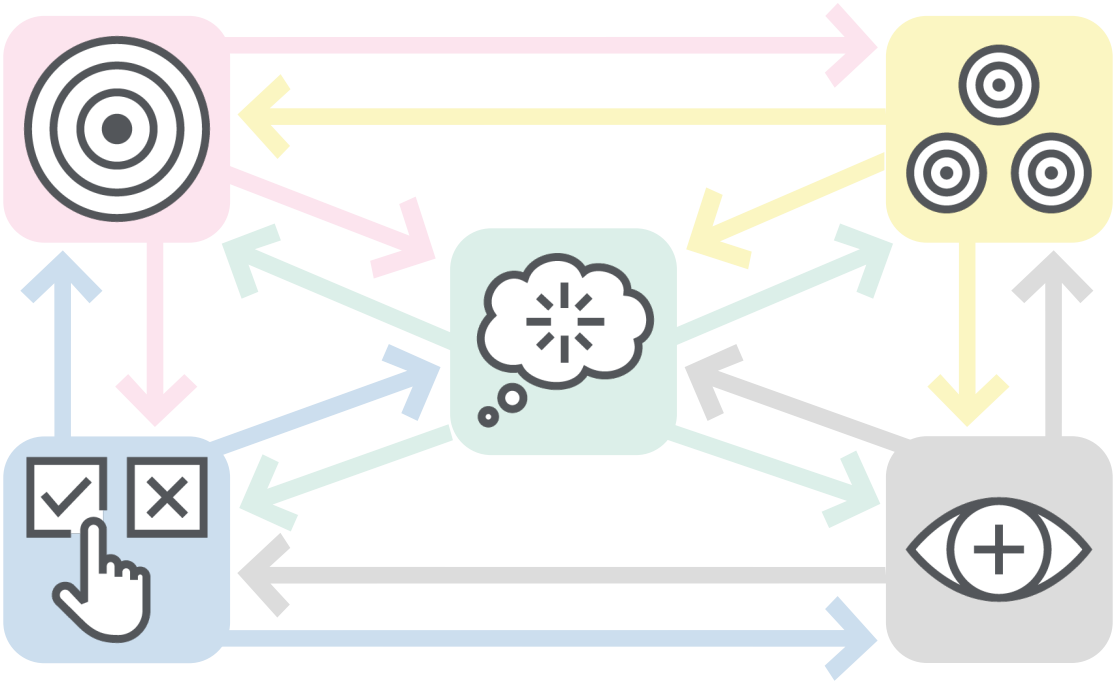
We encourage the goals and activities in each step to be individualized to each person. Their motivations and interests should lead the journey. Not everyone will start at Step 1 and not everyone will go through the Pathway in the same way. This is not a linear recipe card for eye gaze. Everyone is different, so please use your judgment and input from the person using eye gaze to create their pathway to independence with eye gaze access!

When to start?

There is also no correct or incorrect time to start this TD Eye Gaze Pathway. If someone has never used eye gaze before, but it appears to be a possible access method, this is a great time to start. If someone is using eye gaze on a device already, but limited by their access, this is also a perfect time to work on this eye gaze pathway.

How should we use the TD Eye Gaze Pathway?

As we discuss the 5 steps for the TD Eye Gaze Pathway, visualize them as an integrated process rather than a staircase. They build upon each other, but they are not prerequisites to the next skill, nor do they need to be targeted in any particular order.



If you are working on skills in one step, do not hesitate to move on even if you don't feel that area has been 'mastered'. Other activities may encourage the individual to show other skills and/or reinforce those they are currently working on.

You can also mix in skills or activities from other steps above or below the area you are currently in. In each activity you will see tips on when to move to the next step, but variety is key.

Each step will also give examples on how to set goals, keep data, and record progress. If you do not have access to a program like Gaze Viewer or cannot look at heat maps for specific games, you can still observe. Good observation can be a great way to naturally collect data and assess progress. For more information about Gaze Viewer, see the FAQ section.

Important reminders when working through the TD Eye Gaze Pathway

Set **realistic expectations** with the team and the individual.

Learning eye gaze requires time and practice.

The steps do not need to be addressed linearly. Move forward and backward as needed.

Make it **motivating**!

Interest and motivation are key to each step. Take the time to select activities and goals specific to the individual.

Have family and peers help you make a 'like and dislike' list you can use during practice tasks. An example is provided in the FAQ.

Keep sessions **short**!

This is hard work. Offer lots of breaks and let them tell you when they are done.

Find a space that allows for concentration.

For some, a quiet room is best. For others, having their favorite classmates nearby is better. Think about lighting: Does this person do better when it is brighter or darker?

Be aware if the individual has a startle reflex and **be sensitive** to individuals that do not want all the sounds and lights that come with some activities.

Respond to all communication and praise their hard work, but notice if you are giving too much verbal feedback. That may become distracting.

Troubleshoot challenges as they arise and think outside the box. You may need to get creative!

Remember that **performance will vary**. Every day can be a little different.

Play and learn.
Do not quiz and test.

Remind everyone that they are learning a new way to **play, communicate, and have fun**!

Send fun home practice and supplemental activities whenever possible.

FAQ and Additional Resources

As a therapist, how do I get started with evaluating someone for eye gaze?

Eye tracking, or gaze interaction, is a technology that allows someone to control their computer with their eyes. It also helps us to see where a person is looking on the screen.

- Most people who have at least some vision can use eye tracking.
- Individuals who struggle with other access methods are often good candidates for eye tracking.
- Some AAC users may prefer to use eye gaze in addition to another access method. Reassure them that they can switch between access methods and use what works for them (see TD Snap action Change Access Method).

Eye Gaze Observation Form
Throughout the evaluation process use an intake form such as this one.

http://qrco.de/egobfm

If you are interested in learning a lot more about eye gaze as an access method, go the Tobii Dynavox Learning Hub for more in-depth resources.

Tobii Dynavox Learning Hub
Log into the Learning Hub to access courses.

http://learn.tobiidynavox.com

Eye Gaze Online Course

http://qrco.de/lhegam

Eye Gaze Course Summary

http://qrco.de/bfRYvY

Introduction to Eye Gaze: Steps to Success

http://qrco.de/bfOwLo

Are there prerequisites to starting or continuing through the Pathway or to using eye gaze AAC?

There are no prerequisites or necessary skills for using eye gaze. If you have questions about the individual's visual acuity, work closely with a neuro-ophthalmologist, their vision specialist, or their occupational therapist. You can modify settings and select activities based on their input.

Can individuals with CVI, Rett Syndrome, or Epilepsy use the TD Eye Gaze Pathway?

Yes! You may need to modify the activities for their specific visual needs, but there is no 'mandatory' order to go through this Pathway or specific requirements need to progress through it. Our eye trackers are safe for those with epilepsy.

CVI and AAC Guide

http://qrco.de/CVIguide

Epilepsy and TD Eye Trackers

http://qrco.de/epegtd

What are the main differences if I use a Windows-based system versus an iOS system?

The eye gaze cameras in the TD Pilot and TD I-Series are the same. However, due to the TD Pilot being an iPadOS device and the TD I-Series being Windows-based, the applications and settings will look different. In iPadOS, once you leave a TD app you will need to use Apple's AssistiveTouch for eye gaze access to other apps. In Windows, we use a program called TD Control to access the desktop and other apps and an app called TD Browse for web access. Also, some apps are only available on either Windows or iPadOS, so we have created different activity sets based on which hardware you are using.

How do I learn more about positioning?

Positioning is one of the most important elements for successful eye gaze access. The following resources will help you understand proper positioning and optimize for the individual. If you feel their positioning may be impacting success with eye tracking, work closely with an OT, PT or seating specialist.

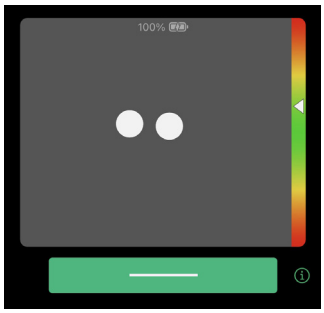
Mounting and Positioning Guide

http://qrco.de/SC2en

Tips for Mounting Video

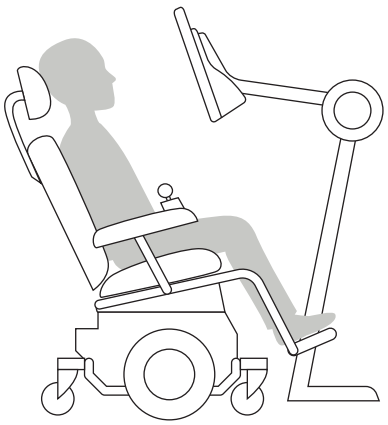
http://qrco.de/ismntV

What is Track Status and how can it help with positioning?



Use the triangle button on the TD I-Series device to launch Track Status. Track Status helps us position the AAC user within this effective range of the eye tracker. First, the track status box gives us a visual of where the person's eyes are on the screen. Their eyes are represented by the white dots. If they blink or close one eye, one of the dots will disappear. Aim to have the person's eyes land about in the center of this box. And second, the color spectrum sidebar shows how close the person is to the screen. As the user's distance increases or decreases, the arrow will move up and down. As a starting point, it can be helpful to position the device so that the white triangle is in the green area of the distance meter.

If the AAC user is having eye tracking issues, use these steps to help:



- Start by positioning the individual comfortably. Adjust the mount and device to suit the user, not the other way around.
- If the user is most comfortable tilted, reclining, or laying down, those are all fine positions! Use the mounting solution to position the device appropriately.
- Make sure the user is wearing their glasses, if they need them, and that the lenses are clean.
- Orient the device so their eyes are within the Track Status box and they can easily see the device screen.
- If the user's head is tilted left or right, the device should also be tilted to match.
- Try to have their eyes in the green area of the Track Box if possible.

When is recalibration necessary?

You may want to recalibrate when you notice accuracy has decreased even when the user's position in Track Status looks good. It may be worth recalibrating after major position changes or significant lighting changes within the environment.

Note
If calibration is not possible or too stressful for the individual using eye gaze, you may not need to do it at all. In fact, in the first few steps of the TD Eye Gaze Pathway, we do not require calibration to participate in the suggested activities. Additionally, it is not necessary to calibrate in each app. TD apps all share the same calibration information.

For more in-depth information on calibration, use the links below:

TD I-Series Eye Gaze Calibration
See this quick guide for more in-depth information on calibration.

http://qrco.de/bf3meq

TD Pilot Eye Gaze Calibration
See this quick guide for more in-depth information on calibration.

http://qrco.de/pegcEN

TD I-Series Tips for Calibration
Watch this video for tips to help you get a good calibration.

http://qrco.de/istggeV

What if we are struggling with the camera detecting the user's eyes?

Blinking or shifting dots in Track Status indicate that the eye tracker cannot consistently identify the reflections on the user's eyes. This can be caused by bright overhead lights, bright sunlight, reflective surfaces around or behind the user, and dry eyes. Consider positioning the user so that bright light is not hitting the screen directly. Wearing a cap can also improve the eye tracker's ability to capture reflections on the eyes.

Most glasses and contact lenses do not impact eye tracking. Ensure that the person calibrates with their glasses on, as the calibration will be different with and without glasses. Larger lenses and frameless or partly frameless styles of glasses are best as they are less likely to block the eye. Frames that are sparkly or extremely shiny should be avoided.

Some people naturally have droopy eyelids, which can interfere with eye tracking if the device is in a low position. Try raising the device so that the user is looking straight ahead or slightly up at the screen. This lifts the upper eyelid, so that the eye tracker can see the pupil more consistently.

Dry eyes can occur for a variety of reasons. Try having the AAC user take a break from eye tracking to blink several times or close the eyes for a while to redistribute their natural tears. Consult their physician to see if lubricating eye drops might help.

Contact a vision specialist or occupational therapist if you have specific questions or concerns.

What is Gaze Viewer?

Gaze Viewer is a free application available on the TD I-Series that records data from any application to help understand physical and cognitive abilities via eye tracking skills. Save the results as images or videos to track and assess progress over time.

Meet Gaze Viewer
Watch this introductory video for more information about how to use it.

http://qrco.de/mgzvd

How can the AAC user practice eye gaze skills at home?

Send home a list of activities to improve generalization of the skill in various environments.

1. If the eye gaze device is available, send a list of games, books, or activities you played on the system with instructions.
2. If the eye gaze device is not available, suggest putting on a favorite TV show, using a computer to show motivating photos or videos, and using light up/sound toys to practice finding them around the room.
3. Create paper-based systems, if applicable, to use for communication. See more about that in the FAQ below.

What if we do not have a high-tech eye gaze device? Are there paper-based options?

Yes, a high-tech system is not the only way to use eye gaze. You can hold up objects, pictures, or communication boards depending on the goals you are targeting for eye tracking. There are eye gaze frames that can be used to offer more choices. These frames can be paper or plastic and have the center area cut out so as the partner, you can see what option they are looking at around the frame. Even when an eye gaze device is available, it is important to have a no-tech option to use as a backup if needed. If you have access to Boardmaker, personalized paper-based systems can be created and printed.

ALS Printable Communication Board

http://qrco.de/alscb

Make and Use an E-Tran (Eye Transfer) Board Video

http://qrco.de/etrnvd

Where do I go for troubleshooting general eye gaze or hardware issues?

TD Support Articles (North America)

http://qrco.de/sprtclUS

TD Support Articles (Global)

http://qrco.de/sprtcl

Contact (North America)
Call or use the website chat.

http://qrco.de/cntctUS

Contact (Global)
Call or use the website chat.

http://qrco.de/cntctTD

Why can I not access apps that require Wifi?

Dedicated communication devices are often shipped ‘locked’ due to insurance guidelines. To unlock the device for access to apps and the internet, follow the steps on the Device Key Management page.

Device Key Management Page

http://qrco.de/bf3as3

How do the DAGG-3 goals interact with the TD Eye Gaze Pathway?

DAGG-3

http://qrco.de/daggPPEN

The DAGG-3 (Dynamic AAC Goals Grid revision 3) has operational goals that can be targeted using the TD Eye Gaze Pathway.

What is Sensory Eye FX2 on my TD I-Series?

Some TD I-Series devices will have the Sensory Eye FX2 app. There is a fee associated with this program, but on trial devices from Tobii Dynavox a full version is provided for free. Sensory Eye FX2 allows for heat maps and other ways to collect recordings and data built into the activities.

Note
To exit an Eye FX2 game, if the X in the upper corner is not present, look at the bottom right of the screen to exit or press ESC on a keyboard.

Sensory Eye FX2 Quick Guide

http://qrco.de/sefx2qg

How do I determine what is motivating to the AAC user?

As you read earlier, motivation and interest are key. We are targeting eye gaze skills in play situations that need to be engaging and personally relevant for the individual. It should be a fun challenge to them, like a good game, but we are working on learning a skill through play. Check in on preferences regularly as people's interests may change over time or they may get tired of a particular activity. Use a likes/dislikes chart to help build a personally motivating repertoire of targets and games. An example is provided below.

Interest area	Most liked	Least liked
TV show		
Movie		
Character or person		
Music		
Colors		
Sounds		
Toys/Games		

Set up Repeat Click Mode in TD Control

What is TD Control?
To access apps or your desktop outside of TD Snap® or Communicator 5, you will use a program called TD Control. TD Control can be used to do everything your keyboard and mouse can do. While the user is going through the Eye Gaze Pathway they will use TD Control in Repeat Click Mode, which limits the actions to left click only.

Follow the text or video instructions below to set up TD Control to always open in Repeat Click Mode.

1. Launch **TD Control**.

2. Look below the screen to open the off-screen menu, then select **Dashboard**.

3. Select **Quick Calibrate** to check your calibration and, if necessary, calibrate.

4. When you are satisfied with your calibration select **Close** to return to the main screen.
5. Look below the screen to open the off-screen menu, then select **Dashboard**.

6. On the Dashboard, select **Settings**.

TD Control - Repeat Click Mode Video
Video instructions for setting up Repeat Click Mode.

http://qrco.de/crcmvd

7. Scroll to the second page of settings.
8. Under **Customization** select **Open**.
9. Under **Modes Menu** select **Customize**.
10. Select any **plus sign**.
11. Choose **Repeat Click** and select **add**.
12. Remove any other modes on the Modes Menu by selecting the **minus sign** and **confirm**.
13. Select **back arrow** (not Close) when finished.
14. Select **Startup Mode** and **Repeat Click**. This setting will make TD Control open in Repeat Click Mode every time.
15. Select **Ok**.
16. Select **X** to exit Settings.

Tip
You can quit TD Control and then open it again to confirm that it starts in Repeat Click Mode.

There are several ways to launch TD Control

It's important you understand how Repeat Click mode works. Try it with your eyes first. You may want to calibrate your own eyes before you begin.

- From TD Snap: Edit a button in TD Snap, add the action Launch Application, then choose TD Control. When this button is selected, it will launch TD Control.
- Select the TD Control shortcut on your desktop.
- Select the Windows Start Menu and then select TD Control from the apps list.

Try Repeat Click

It is important to understand how Repeat Click mode works. In Repeat Click Mode, when you look at an item for the hold duration, you left click on that item. Follow the steps below to try it.

1. Open an app (not TD Snap or Communicator 5) or website (e.g., YouTube Kids, eyegazegames.com).
2. If it isn't already running, open TD Control.
3. Look below the eye tracker to open the Off-Screen Menu and check that Repeat Click mode and the Left Click icon are highlighted as shown below.

4. Practice selecting items in the app or website. When you look at an item for the hold duration, it will left click the item.

Tip
You can pause eye tracking and change the visibility of the trace in the Off-Screen Menu. Look below the bottom of the of the screen to open the Off-Screen Menu.

Using Repeat Click in activities outside TD Snap® during practice

1. Launch TD Control. It will open in Repeat Click Mode.
2. Use touch on the screen to open the app or website you will use in the lesson.
3. Use Track Status to verify that the TD I-Series is seeing the person's eyes. To open Track Status press the button with the triangle on it (found below the bottom of the screen on your TD I-Series device), or open the Off-Screen Menu and select Calibrate.
4. Start the activity.
5. Pause and resume eye tracking as needed.
6. Use the touch screen to open their communication software once the activity is complete.

By Step 5, you can exit Repeat Click Mode to do even more with TD Control.

TD Control - How to Pause and Resume Eye Gaze Video

http://qrco.de/tdcprvd

Eye Gaze Computer Access for TD I-Series: Where to Start

http://qrco.de/isegcas

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