

# Phase 1: Assistive Technology 2025

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## Start of Block: Participant Data

Patient ID **FOR RESEARCHER USE**

Input Patient ID below:

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## End of Block: Participant Data

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## Start of Block: Survey Participation

### Informed Consent

You are invited to take a survey and volunteer for a research project as part of the researchers' academic program at Keck Graduate Institute.

Volunteering will not benefit you directly, but you will be helping the investigators explore and develop a therapeutic assistive device that can assist in computer navigation for individuals with hand tremors.

This will take about 5-10 minutes of your time. Volunteering for this study involves no more risk than what a typical person experiences on a regular day. Your involvement is entirely up to you. You may withdraw at any time for any reason.

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Informed Consent Do you consent to participate in this study?

☐ Yes (1)

☐ No (2)

*Skip To: End of Survey If Do you consent to participate in this study? = No*

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Participant Age

How old are you?

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### Prior Participation

Have you participated in this survey before?

☐ Yes (1)

☐ No (2)

*Skip To: End of Survey If Have you participated in this survey before? = Yes*

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### About Yourself

Do you experience tremors, shaking or involuntary movement in your hands, wrists, or arms?

☐ Yes (1)

☐ Sometimes (2)

☐ No (3)

*Skip To: End of Block If Do you experience tremors, shaking or involuntary movement in your hands, wrists, or arms? = No*

**End of Block: Survey Participation**

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**Start of Block: Computer Use**

### About Computer Use

This next section is going to refer to your computer use. Computer use refers to activities such as browsing the internet, typing documents, programming, data analysis, gaming, or communication.

Press the 'Next' arrow to continue.

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Page Break

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Question 12

How long do you spend your time in front of a computer per day on average?

	Less than 30 minutes (1)	30 min to 1 hour (2)	1-2 hours (3)	3-4 hours (4)	More than 4 hours (5)
Time (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 13

What do you typically use your computer for?

	Rarely (1)	Frequently (2)
Work (1)	<input type="radio"/>	<input type="radio"/>
Communication with others (2)	<input type="radio"/>	<input type="radio"/>
Recreational (watching videos, playing games, social media, browsing) (3)	<input type="radio"/>	<input type="radio"/>
Purchasing items (groceries, medication, etc.) (4)	<input type="radio"/>	<input type="radio"/>

Question 14

How challenging is it when you are interacting with your computer?

	Extremely easy (1)	Somewhat easy (2)	Neither easy or difficult (3)	Somewhat difficult (4)	Extremely difficult (5)
Moving the mouse (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the keyboard (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Question 15 Which mouse most closely represents the type of mouse you currently use?  
(If you no longer use a computer, please select the most recent mouse you used.)

☐ Traditional (Standard) mouse (1)



☐ Ergonomic mouse (2)



☐ Trackball mouse (3)



☐ Apple Magic Mouse (4)



☐ Touchpad (5)



#### Question 16

Are there specific tasks when using a computer mouse that are particularly challenging for you?

	Extremely easy (1)	Somewhat easy (2)	Neither easy nor difficult (3)	Somewhat difficult (4)	Extremely difficult (5)
Clicking (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dragging (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moving (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scrolling (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 17

Does using a mouse cause discomfort or fatigue in your hand, wrist, or arm?

	Extremely uncomfortable (1)	Somewhat uncomfortable (2)	Neutral (3)	Somewhat comfortable (4)	Extremely comfortable (5)	Not applicable (6)
Hand (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wrist (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arm (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 18

Does the surface where you use your computer mouse impact how well you can control it?  
(i.e. using a mousepad vs plain table)

	Yes (1)	Mostly (2)	Sometimes (3)	Not really (4)	No (5)
Better control (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 19

Do you use any assistive technologies to reduce reliance on a computer mouse?

	Voice commands (1)	Keyboard shortcuts (2)	Touchscreen (3)	Adaptive software (4)	Game controller / joystick (5)	Not applicable (6)
Assistive technology (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 20

If you had to get a new mouse, what factors are important to you?

	Not important (1)	Somewhat important (2)	Very important (3)
Comfort (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easy to use (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsiveness (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design / look of mouse (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Computer Use

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Start of Block: Tremors

About Tremors

This next section is going to discuss how your tremors or condition affects you. Tremors are involuntary, rhythmic muscle movements that cause shaking in one or more parts of the body, commonly affecting the hands, arms, head, legs, or voice.

Press the 'Next' arrow to continue.

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### Question 1

Can you tell me a little about when the tremors first began?

	Under 20 Years old (1)	21-30 Years old (2)	31-40 Years old (3)	41-50 years old (4)	51-60 years old (5)	Above 60 years old (6)
Age when tremors began (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Question 2

Have you been given a specific diagnosis related to the tremors? If so, what is it?

*(Write 'N/A' if you don't know / have a diagnosis.)*

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### Question 3

Do the tremors affect one part of your body more than others?

	Arm (1)	Hand (2)	Wrist (3)	Head (4)	Other (5)
Where in the body are you affected (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Question 4

How do the tremors impact your daily activities?

	Extremely easy (1)	Somewhat easy (2)	Neither easy nor difficult (3)	Somewhat difficult (4)	Extremely difficult (5)
Performing daily tasks (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using electronic devices (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeping steady hand while holding items (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating with others (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Question 5

How often do you experience tremors?

	Never (1)	Rarely (2)	Sometimes (3)	Most of the time (4)	Always (5)	They come and go (6)
Tremors (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Question 6

Have you noticed your tremors worsen as time goes on when performing certain tasks?

	Yes (1)	Sometimes (2)	No (3)
Tremors worsen with time (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Question 7

Have you explored physical / occupational therapy, assistive devices, or other solutions to cope with the tremors?

	Yes (1)	No (2)
Physical / Occupational Therapy (1)	<input type="radio"/>	<input type="radio"/>
Assistive devices (2)	<input type="radio"/>	<input type="radio"/>
Medication (3)	<input type="radio"/>	<input type="radio"/>
⊗Other (4)	<input type="radio"/>	<input type="radio"/>

### Question 8 How severely do you experience tremors?

	Mild (1)	Moderate (2)	Severe (3)
Severity (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Question 9

Do hand tremors negatively affect your ability to interact with a computer?

	Extremely easy (1)	Somewhat easy (2)	Neither easy nor difficult (3)	Somewhat difficult (4)	Extremely difficult (5)
Computer use difficulty (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 10

Do you limit your interaction with computers as a result of hand tremors?

	Never use the computer (1)	Rarely use the computer (2)	Use the computer when necessary (3)	Sometimes use the computer (4)	Use the computer daily (5)
Computer avoidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 11

Do you use any devices to overcome your difficulties with hand tremors in order to use a computer? If yes, explain what device you use.

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End of Block: Tremors