

Instrument developed by Holly Peay, PhD (holly.peay@faegredrinker.com) and Anne Wheeler, PhD (acwheeler@rti.org) in 2025 with the Foundation for Angelman Syndrome Therapeutics, Ryan Fischer (ryan.fischer@cureangelman.org) and the Angelman Syndrome Foundation, Amanda Moore (amanda@angelman.org)



Angelman Syndrome PFDD Survey

Introduction

We need your input! If you are a parent or primary caregiver of a person affected by Angelman syndrome, please answer this important survey. By sharing your experiences and insights, you can play a crucial role in guiding research and ensuring that the needs of the Angelman community are front and center.

By participating, you can:

- Help the FDA, companies developing new treatments, researchers, and healthcare professionals understand the real-life challenges faced by individuals and families.
- Contribute to the development of treatments that address the needs of those with Angelman syndrome.
- Be a part of the movement to improve care and quality of life for the Angelman community.

Please take this survey:

- If you are an adult (age 18 or older), and
- If you are willing to share your experience as a parent or other primary caregiver (non-paid) of a person diagnosed with Angelman syndrome (AS).

The person with AS can be any age. The person with AS can be living or deceased. You can live in any country, but you must be able to take the survey in English.

If you care for a person with AS along with a partner (for example, if you are a parent and provide care along with another parent), you may both answer this survey. Please do not discuss the answers with each other as you answer the survey.

Note: If you are a parent who has more than one child with AS or if you are a primary caregiver for more than one person with AS: You can either answer the survey more than one time, with one complete survey for each person with AS, or you can answer the survey one time, thinking about the older person with AS.

If you meet and understand these criteria, please choose 'next' to review the informed consent and then answer the survey.

Informed consent

[redacted]

1. About the person answering the survey

Please start by answering a few questions about yourself, the person who is answering the survey.

1. What is your relationship to the person with Angelman syndrome?

☐ Biological parent

☐ Adoptive parent

☐ Legal guardian

☐ Grandparent

☐ Other family member

☐ Other, non-paid primary caregiver, please list: _____

2. How old are you (the person answering the survey)? [*pull down by year, starting at 18y*]

3. What gender do you most identify with?

☐ Male

☐ Female

☐ Non-binary

☐ Another identity not listed: _____

☐ Prefer not to answer

4. Are you (the person taking this survey) Hispanic, Latino, or of Spanish origin?

☐ Yes

☐ No

☐ Prefer not to answer

5. Which of the following best describe(s) you (the person taking this survey)? Check all that apply.

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Another identity not listed:(please specify):

- ☐ Prefer not to answer

6. What is the highest level of education you (the person taking the survey) have completed?

- ☐ Some high school
- ☐ High school
- ☐ Associate's degree or equivalent
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctoral degree
- ☐ I don't know
- ☐ Prefer not to answer

7. Where do you live?

Country: *[list]*

State: *[If US is selected]*

Zip code: *[open text field]*

2. About the person with Angelman syndrome

Please answer the following questions about the person with Angelman syndrome (AS).

1. How many of your children (living or deceased) have been **diagnosed with AS?** If you are a primary caregiver other than a parent, choose the number of people with AS for whom you are a primary caregiver. *[pulldown 1, 2, 3, 4, 5, more than 5]*
2. Is the person with AS:

☐ Living *[Logic to appropriate question 3 below]*

☐ Deceased *[Logic to appropriate question 3 below]*

3. How old is the person with AS? *[pulldown by year] [Logic: if living]*

-OR-

3. How old was the person with AS when he or she died? *[Pulldown by year] [Logic: if deceased]*

What was the cause of death? _____ *[Logic: if deceased]*

4. How old was the person with AS when he or she was first diagnosed **with AS**?

☐ Before 1 year of age

☐ 1 year old

☐ 2 years old

☐ 3 years old

[...Up to]

Over 18 years old

5. Is the person with AS:

☐ Male

☐ Female

6. What is the genotype (genetic cause of AS) for the person with AS?

☐ Deletion

☐ Mutation

☐ Imprinting Defect

☐ Uniparental Disomy

☐ Mosaic

☐ I'm not sure

7. What type(s) of insurance does the person with AS have? Check all that apply. *[Logic: Skip if not US respondent]*

☐ A parent's employer-sponsored health insurance

☐ Commercial health insurance obtained through the marketplace

☐ Medicare

☐ Medicaid

☐ Other, please specify:: _____

☐ None

☐ I don't know

☐ Prefer not to answer

8. Is the person with AS of Hispanic, Latino, or of Spanish origin?

☐ Yes

☐ No

☐ Prefer not to answer

9. Which of the following best describe(s) the person with AS? Check all that apply.

☐ American Indian or Alaska Native

☐ Asian

☐ Black or African American

☐ Native Hawaiian or Other Pacific Islander

☐ White

☐ Another identity not listed:(please specify):

☐ Prefer not to answer

10. Has the person with AS participated in any of the following types of research studies? Check all that apply. If you don't know, select "I don't know."

☐ Clinical trial: These are studies that test whether a potential therapy works and is safe.

☐ Natural history or observational study for AS: These studies do not test a potential therapy. They seek to understand AS symptoms and how those symptoms may change over time. Examples are the AS Natural History study, LADDER, FREESIAS, and the Global Angelman Syndrome Registry.

☐ Other type of AS research study: _____

☐ I don't know

3. Symptom importance and impact for person with Angelman syndrome

In this section, we ask you to choose the most impactful symptom among groupings of related symptoms. Please focus on the ones that have the most impact on **your child/the person you care for with Angelman syndrome**.

Later we will ask about groups of symptoms with the most impact on your life as a caregiver. Let's start.

Thinking about the current status of the person with AS, which 3 **GROUPS of symptoms** have the biggest negative impact on the day-to-day life? Please review each group name and read the list of symptoms in the group. Then choose 3 **groups** in order of impact, selecting the most impactful, second most impactful, and third most impactful. Selecting just three groups does not mean that other groups are not important, overall.

It may help to have an example. Let's say that a caregiver taking the survey (we will call him Mike) reads through the groups. He finds it difficult to choose, but in the end, Mike chooses fine motor as the most impactful to his child with AS, behavior as the second most impactful, and gross motor/getting around as the third most important. Though Mike selected these as his top three choices, it doesn't mean that the other groups do not seriously impact his child.

Now it's your turn to choose. Select the three groups with the greatest impact on the person with AS.

{Groups presented in random order by respondent; formatted in a radio button grid}

Group name	Symptoms in this group	Response options
Communication	<ul style="list-style-type: none">• Lack of or minimal verbal speech• Little use of gestures• Difficulty communicating using adaptive device• Difficulty understanding others• Difficulty in communicating basic needs	Most impactful Second most impactful Third most impactful
Gross motor/getting around	<ul style="list-style-type: none">• Problems with mobility• Unsteady (balance problems)• Frequent falls• Difficulty using stairs• Difficulty with endurance/walking distance	
Fine motor	<ul style="list-style-type: none">• Difficulty self-feeding• Difficulty drinking from cup• Difficulty dressing• Cannot use assistive devices• Cannot hold crayon/pencil	
Sleep	<ul style="list-style-type: none">• Difficulty getting to sleep• Difficulty staying asleep/short duration of sleep	

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	<ul style="list-style-type: none"> • Long or many awakenings in the middle of the night • Disorientation when woken • Daytime sleepiness 	
Neurological	<ul style="list-style-type: none"> • Daytime Seizures • Nighttime seizures • Low muscle tone (floppy muscles) and/or high (tight muscles) • Tremors/uncontrollable muscle spasms • Drooling 	
Behavior	<ul style="list-style-type: none"> • Hand flapping/body rocking • Mouthing • Activity level too high or too low • Self-Injury (biting hand, hitting head) • Elopement/running away 	
Gastrointestinal	<ul style="list-style-type: none"> • Reflux • Vomiting • Difficulty and pain with swallowing • Constipation • Problems with weigh management (too much/not enough weight gain) 	
Activities of daily living	<ul style="list-style-type: none"> • Difficulty toileting • Difficulty bathing/washing self • Difficulty with teeth brushing • Difficulty dressing or undressing • Difficulty feeding self • Little or no independence with self-care 	
Vision	<ul style="list-style-type: none"> • Cortical vision impairment (problems with visual recognition and visual attention but eyes are fine) • Other vision impairments (nearsightedness/myopia; farsightedness (hyperopia); astigmatism) • Sensitivity to light • Strabismus (eyes not aligned) 	
Thinking and cognition	<ul style="list-style-type: none"> • Difficulty with attention • Difficulty sustaining interest or engagement • Difficulty with memory • Impaired ability to learn new things • Difficulty applying learned skills to new situations 	

{Symptom level items are shown for the domains rated 1, 2, and 3, using the format below:}

You answered that the **[NAME]** group of symptoms was one of the most impactful for the person with AS.

The following list shows symptoms in this group. This symptom list is based on past research and engagement. Thinking about the current symptoms experienced by the person with AS, please rate the degree of impact on day-to-day life. If the person with AS does not have the symptom, please check the item saying “the person with AS does not have this symptom”.

[Insert domain symptoms]

Degree of negative impact on the person with AS:

- ☐ () The person with AS does not have this symptom
- ☐ () No impact
- ☐ () Minor impact
- ☐ () Moderate impact
- ☐ () Major impact

Are there other critically important and highly impactful symptoms that fit into this group that we missed? Please write them here:

4. Impact for parent/caregiver

In this section, we ask you to choose what group of items has most negative impact **on your life as the caregiver of a person with AS**.

Thinking about your and your family’s current status: Which 3 **GROUPS of symptoms** have the biggest negative impact on **your own** day-to-day life? Please review each group name and read the list of items in the group. Then choose 3 groups in order of impact, as being most impactful to you as a caregiver, second most impactful, then third most impactful. Selecting just three groups does not mean that the other groups are not important, overall.

{Groups presented in random order by respondent; formatted in a radio button grid}

Group name	Items in this group	Response options
Disruptive behaviors of person with AS	<ul style="list-style-type: none">• Hyperactivity/impulsivity• Aggression to others (biting, hair-pulling, grabbing, hitting)• Throwing/destroying objects• Elopement/running away• Hand-flapping/body rocking/repetitive movements	<input type="radio"/> Most impactful <input type="radio"/> Second most impactful <input type="radio"/> Third most impactful

Independence of person with AS	<ul style="list-style-type: none"> • Need for adult supervision at all times • Needing to support toileting/diaper changes • Needing to support dressing • Needing to support feeding • Needing to support hygiene/grooming • Need for lifelong support in completing activities of daily living 	
Challenges communicating with the person with AS	<ul style="list-style-type: none"> • Difficulty understanding what your child is trying to communicate (pain, emotions, needs, etc.) • Difficulty communicating so child understands • Difficulty feeling connected or bonded with the individual 	
Challenges managing mobility challenges of person with AS	<ul style="list-style-type: none"> • Must physically support child to get around • Must plan for and navigate child's lack of mobility in areas outside the home (e.g. school, store) • Must manage safety concerns (e.g., falls) 	
Caregiver ability to sleep	<ul style="list-style-type: none"> • Inability to sleep • Lack of sleep consistency • Day time fatigue 	
Negative impact of AS on your own social life/community involvement	<ul style="list-style-type: none"> • Social isolation • Impact on your intimate relationships • Difficulties planning and participating in social activities • Difficulties being able to take vacations • Difficulties with getting support/resources (respite, informal support, etc.) 	
Negative impact of AS on your work/finances	<ul style="list-style-type: none"> • One or more caregivers having to reduce hours or quit work to care for the individual with AS • Regularly missing work to care for the individual with AS • Decreased productivity at work • Having to change job/career because of the individual with AS's needs 	
Negative impact of AS on your own physical health	<ul style="list-style-type: none"> • Caregiving-related back pain • Caregiving-related headaches/migraines 	

	<ul style="list-style-type: none"> • Caregiving-related other physical problems • Injuries from the individual with AS's behaviors 	
Negative impact of AS on your own mental health	<ul style="list-style-type: none"> • Your need for constant vigilance over your child's actions • Your worry or anxiety • Your feelings of depression • Your feelings of guilt as a parent/caregiver 	
Negative impact of AS on your home	<ul style="list-style-type: none"> • Difficulty getting things done in the home (e.g., chores) • Difficulty caring for others in the home (e.g., other children) • Negative impact on siblings 	

{Symptom level items are shown for the domains rated 1, 2, and 3, using the format below:}

You answered that the **[NAME]** group of symptoms was one of the most impactful on you as a caregiver.

The following list shows the items in this group. This list is based on past research and engagement. Among this group, please rate the degree of negative impact of each item on your day-to-day life. If the item does not apply to you, please check the item saying "does not apply".

[Insert domain symptoms]

Degree of negative impact:

- () This item does not apply to me/the person with AS
- () No impact
- () Minor impact
- () Moderate impact
- () Major impact

Are there other **critically important and highly impactful symptoms** that **fit into this group** that we missed? Please write them here:

5. Treatment priorities

Imagine that there was a new FDA-approved treatment available to people with AS. Imagine the new treatment for AS is focused on treating specific symptoms, rather than all AS symptoms discussed earlier in this survey. If a new treatment resulted in a small but meaningful change in a single symptom, which symptom would be most important to improve?

Choose five symptoms in order from 1 to 5 with 1 being the most important. Please choose from this list of symptoms.

Then for each symptom you choose, please describe what the smallest meaningful change would be like. This is what we mean by a smallest meaningful change: A smallest change that the caregiver feels noticeably impacts the individual with AS's daily functioning or family quality of life in a way that is important to the individual with AS or the family.

{Symptom list for following questions:}

1. Lack of or minimal verbal speech
2. Little use of gestures
3. Difficulty understanding others
4. Difficulty in communicating basic needs or pain/discomfort
5. Lack of mobility
6. Unsteady (balance problems/frequent falls)
7. Difficulty with endurance/walking distances
8. Difficulty getting to sleep
9. Difficulty staying asleep/short duration of sleep
10. Long or many awakenings in the middle of the night
11. Daytime sleepiness
12. Seizures
13. Muscle tone too low (floppy muscles) and/or too high (tight muscles)
14. Tremors/uncontrollable muscle spasms
15. Drooling
16. Reflux
17. Vomiting
18. Difficulty and pain with swallowing
19. Constipation
20. Problems with weight management (too much/not enough weight gain)
21. Difficulty toileting
22. Difficulty with basic hygiene (e.g. washing body, brushing teeth)
23. Difficulty dressing or undressing
24. Difficulty feeding self finger foods
25. Cannot use utensils for feeding
26. Cannot use assistive devices
27. Cortical vision impairment (visual recognition and attention)
28. Other vision impairments (such as nearsightedness; astigmatism)

29. Difficulty with sustained attention/engagement
30. Difficulty with memory
31. Impaired ability to learn new things
32. Difficulty applying learned skills to new situations
33. Hyperactivity/impulsivity
34. Aggression to others (biting, hair-pulling, grabbing, hitting)
35. Throwing/destroying objects
36. Elopement/running away
37. Hand-flapping/body rocking/repetitive movements
38. Mouthing of objects
39. Activity level too high or too low
40. Self-Injury (biting hand, hitting head)

1. Symptom 1 (most important): *{{[symptom1_calc] selected from list}}*
 - a. Describe what the smallest meaningful change to this symptom would be like for you/the individual with AS:
2. Symptom 2: *{{[symptom2_calc] selected from list}}*
 - a. Describe what the smallest meaningful change to this symptom would be like for you/the individual with AS:
3. Symptom 3: *{{[symptom3_calc] selected from list}}*
 - a. Describe what the smallest meaningful change to this symptom would be like for you/the individual with AS:
4. Symptom 4: *{{[symptom4_calc] selected from list}}*
 - a. Describe what the smallest meaningful change to this symptom would be like for you/the individual with AS:

Symptom 5: *{{[symptom5_calc] selected from list}}*

- b. Describe what the smallest meaningful change to this symptom would be like for you/the individual with AS:

6. Your thoughts about clinical trials

The last section asked you to imagine that there was a new FDA approved treatment. Now imagine if your doctor offered a chance for the person with AS to participate in a **clinical trial to test a potential treatment for AS that was not yet approved.**

- Clinical trials test whether a potential treatment is safe and if it improves symptoms.
- Clinical trials are experiments. No one knows whether any participant in a trial will get any benefit from the trial. Most trials do **not** result in a new approved treatment because there was too much risk or (more commonly) there was no proven benefit.
- It would be your choice as the parent/caregiver whether to enroll the person with AS in the clinical trial.

Below you will read a short description of a made-up clinical trial. This description does not match any specific clinical trial conducted in people with AS. Some aspects are based on drugs that are used in other neurological diseases. Other aspects are things that may be part of future clinical trials in AS.

Please answer the questions that follow each description. It may be difficult to answer these questions because you would have more information about a real clinical trial, but please do your best. There are no right or wrong answers, and this is not a real clinical trial.

Description of the made-up clinical trial

- The objective of the trial is to see if a possible new treatment is safe and provides meaningful improvement in specific AS symptoms.
- The trial will be conducted over 1 year. You would need to visit the study site every 2 months (for a total of 6 visits). Each site visit would last 6-8 hours.
- Initially, some participants will receive the study drug and some will not (they would receive a placebo, which is a substance with no active properties that looks like the study drug). During the study, you will not know if your person with AS is getting the study drug (in the active group) or if they are in the placebo group. After 1 year, if the data from the main trial looks promising, every participant will be invited into an extension study where all participants would get the study drug.

- The drug will be given by lumbar puncture, which is similar to having a spinal tap. A small needle is inserted into the person's back and the treatment is given directly through the needle into the fluid around the spine. The lumbar puncture requires sedation (anesthesia) every time.

Description of possible side effects and risks of the made-up trial

Imagine the doctor told you that these are the possible side effects. While most people with AS do not have these side effects, they are not uncommon.

- Vomiting (throwing up)
- Fever
- Seizures may become more frequent
- Headache
- Pain at the site of the needle puncture
- Bleeding at the site of the needle puncture

These are uncommon (rare) but more serious possible risks:

- Infection that causes swelling around the brain and severe headache
- Swelling, bleeding, and pain at the spinal cord
- Leg weakness
- Spinal cord or nerve injury
- The chance for other unanticipated but serious risks

If the person with AS experienced one of these uncommon but more serious side effects, they would have to stay in the hospital until the doctor felt it was safe for them to go home and would need specific treatments to manage the side effects.

Description of possible benefits of the made-up trial

Now, let's imagine possible benefits of this trial. Remember, in a clinical trial we don't know for sure that anyone will get any benefit from participating.

The trial is looking for small but important benefits to the top five symptoms you selected as treatment priorities: *[inserted based on selected symptoms in section 5: [symptom1_calc] [symptom2_calc]*

[symptom3_calc] [symptom4_calc] [symptom5_calc]}

Given these possible benefits and the possible risks described above, please answer the following questions. There are no right or wrong answers.

1. Would you be willing to enroll the person with AS in this trial, given the balance of possible benefits to possible risks and side effects?

☐ Definitely not

☐ Probably not

☐ Probably yes

☐ Definitely yes

Please explain your answer: *[open text limited to 500 characters]*

- a. What would make you **more willing** to enroll the person with AS in this trial?

_____ *[open text limited to 500 characters]*

- b. What would make you **less willing** to enroll the person with AS in this trial?

_____ *[open text limited to 500 characters]*

Now imagine that there are fewer possible benefits. Instead of the top five symptoms you selected, the trial is looking for small but important benefits to the top three symptoms you selected:

[symptom1_calc] [symptom2_calc] [symptom3_calc]

2. Would you be willing to enroll the person with AS in this trial, given the balance of possible benefits to possible risks and side effects?

☐ Definitely not

☐ Probably not

☐ Probably yes

☐ Definitely yes

Please explain your answer: [\[open text limited to 500 characters\]](#)

Now imagine that there are fewer possible benefits. Instead of the top three symptoms you selected, the trial is looking for small but important benefits to the one top symptom you selected: [\[symptom1_calc\]](#)

3. Would you be willing to enroll the person with AS in this trial, given the balance of possible benefits to possible risks and side effects?

☐ Definitely not

☐ Probably not

☐ Probably yes

☐ Definitely yes

Please explain your answer: [\[open text limited to 500 characters\]](#)

4. If the person with AS were given the chance to participate in a clinical trial in the future, how much concern would you have about the following?

	No Concern	Minimal Concern	Moderate Concern	Significant Concern	Unsure
Concern about not being accepted into the trial	()	()	()	()	()
Uncertainty about the safety of the study drug	()	()	()	()	()
Uncertainty about whether potential benefits would justify potential risks	()	()	()	()	()
Fear of receiving placebo	()	()	()	()	()
Fear of physical and/or mental pain that could accompany required trial activities	()	()	()	()	()
Requirement to go off existing medicines, including seizure medicine	()	()	()	()	()
Time required	()	()	()	()	()
Travel required	()	()	()	()	()
Long-term commitment required	()	()	()	()	()
Complexity of the study logistics	()	()	()	()	()

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Other concern(s): _____ *[open text limited to 500 characters]*

Closing screen [redacted]