

<u>IPQ-R-TANGO2 Subscale</u>	<u>Higher score indicates...</u>
Identity	Stronger belief that symptoms are attributable to TANGO2 disorder
Timeline Acute/Chronic	Stronger belief that symptoms will be chronic
Consequences	Stronger belief that TANGO2 disorder has negative consequences
Personal control	Stronger belief in personal control over disease course
Treatment control	Stronger belief in effective treatments to control disease course
Illness coherence	Stronger belief in personal understanding of TANGO2 disorder
Timeline cyclical	Stronger belief that symptoms of TANGO2 disorder are cyclical
Emotional Representations	Stronger belief that TANGO2 disorder has significant negative emotional effects
Cause	Each item assessed independently

Supplemental Table 1. IPQ-R-TANGO2 subscales and corresponding interpretations of high scores on each subscale.

	<u>Child Report</u>		<u>Parent Proxy-Report</u>									
			Toddler (n=13)		Young Child (n=4)		Child (n=4)		Teen (n=6)		Young Adult (n=2)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Total Score	52.9	16.8	75.8	13.7	47.3	11.2	51.1	19.5	43.3	11.5	57.6	13.8
Physical Health Summary	51.2	22.8	78.4	21	41.4	18.5	44.5	18.5	47.9	19	34.4	35.4
Psychosocial Health Summary	53.8	18.9	73.4	12.8	49.2	12.3	53.9	20.3	40.8	10.8	67.2	4.4
Emotional Functioning	71.9	21.1	70	13.3	71.9	7.1	65.6	17.5	56.7	10.8	66.7	5.9
Social Functioning	48.8	30.3	78.1	15.5	41.3	22.9	41.3	28.7	35.8	18.8	80	7.1
School Functioning	40.6	28.9	62.5	14.8	30	18.7	52.5	22.2	30	19.5	55	14.1

Supplemental Table 2. Mean scores and standard deviations on PedsQL™ core scales, summary scales, and total scale in patients with *TANGO2* disorder, organized by child-report and parent proxy-report by age group.

PedsQL Score	TANGO2	Healthy	p-value
Total Score	60.5 (19.4)	87.6 (12.3)	<0.001
n	29	717	
Physical Health Summary Score	59.3 (26.3)	89.3 (16.4)	<0.001
n	29	717	
Psychosocial Health Summary Score	60.2 (18.4)	86.6 (12.8)	<0.001
n	29	717	
Emotional Functioning Scale Score	66.6 (12.9)	82.6 (17.5)	<0.001
n	28	718	
Social Functioning Scale Score	59.3 (26.8)	79.8 (21.9)	<0.001
n	29	716	
School Functioning Scale Score	46.7 (22.1)	71.1 (24.0)	<0.001
n	24	611	

Supplemental Table 3. PedsQL™ mean scores by parent proxy-report compared between children with TANGO2 disorder (all ages) and healthy children as reported by Varni et al. 2001 (ref. 18)

APPENDIX 1

IPQ-R-TANGO2

Your Observations of Your Child's *TANGO2*-related disorder

Below are a number of symptoms associated with *TANGO2*-related disorder (“disease”) that you may or may not have seen in your child. Please indicate by checking yes or no, if you observe any of these symptoms, and whether you think these symptoms are related to your child’s diagnosis.

Please provide one response, for each column, per question.

Symptom	I have observed this symptom in my child.		I believe this symptom is associated with my child’s disease.	
	Yes	No	Yes	No
1. Metabolic crisis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Developmental delay (late to achieve/learn skills)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Developmental regression (loss of skills)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Seizures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Muscle weakness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Clumsiness or ataxia (unsteady walking)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Loss of consciousness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Speech problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Rhabdomyolysis (breakdown of muscles)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Arrhythmia (abnormal heart rhythms)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Intellectual disability or learning disability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Abnormal thyroid hormone levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Digestion problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Hearing loss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

We are interested in your own personal views of how you see your child’s *TANGO2*-related disorder. Please indicate how much you agree or disagree with the following statements about your child’s *TANGO2*-related disorder (“disease”) by checking the appropriate box.

	Views	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
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1	My child's disease will last a short time					
2	My child's disease is likely to be permanent rather than temporary					
3	My child's disease will last a long time					
4	My child's disease will pass quickly					
5	I expect my child will have this disease for the rest of his/her life.					
6	My child's disease is a serious condition					
7	My child's disease has major consequences on my life					
8	My child's disease does not have much effect on my life					
9	My child's disease strongly affects the way others see me					
10	My child's disease has serious financial consequences					
11	My child's disease causes difficulties for those who are close to me					
12	There is a lot I can do to control my child's disease symptoms					
13	What I do can determine whether my child's disease gets better or worse					
14	The course of my child's disease depends on me					
15	Nothing I do will affect my child's disease					
16	I have the power to affect my child's disease					
17	My actions will have no effect on the outcome of my child's disease					
18	My child's disease will improve with time					
19	There is very little that can be done to improve my child's disease					
20	Treatment for my child's disease will be effective in curing him/her					
21	The negative effects of my child's disease can be prevented by treatment					
22	Treatment can control my child's disease					
23	There is nothing that can help my child's disease					

24	The symptoms of my child's disease are puzzling					
25	My child's disease is a mystery to me					
26	I don't understand my child's disease					
27	My child's disease doesn't make sense to me					
28	I have a clear picture or understanding of my child's disease					
29	The symptoms of my child's disease change a great deal from day to day					
30	My child's symptoms of disease come and go in cycles					
31	My child's disease is very unpredictable					
32	My child goes through cycles in which his/her disease gets better and worse					
33	I get depressed when I think about my child's disease					
34	When I think about my child's disease I get upset					
35	My child's disease makes me feel angry					
36	My child's disease does not worry me					
37	That my child has this disease makes me feel anxious					
38	My child's disease makes me feel afraid					

Causes of your child's *TANGO2*-related disorder

We are interested in what you consider as likely contributing factors for your child's *TANGO2*-related disorder ("disease"). There is no correct answer to this question. What interests us most is your own perspective on the factors that may have caused your child's disease rather than what others, including a physician or other professional, may have suggested. Below is a list of some parents' opinions. Please indicate to what extent you agree or disagree with these causes by checking the appropriate box.

	Views	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
1	Life stress					
2	Genetics					
3	Bad luck or chance					
4	The will of God					
5	Something that happened during the pregnancy with him/her					
6	Something that I did prior to the pregnancy with him/her					
7	Something that my partner did prior to the pregnancy with him/her					
8	Stress at birth (i.e., during the delivery)					
9	My age or my partner's age					
10	My child's brain structure					
11	Mental attitude or negative views					
12	Toxins found in food					
13	Environmental pollution					
14	A germ or virus					
15	Poor medical care in the past					
16	My own emotional state					
17	Accident or injury					
18	Problem with my child's immunity					

On the lines below, please rank, in order, the three most important causal factors you believe underlie your child's disease. You may use reasons from the table above or add any other reasons.

For me, the most likely contributing factors are:

1. _____

2. _____

3. _____

APPENDIX 2 - Custom Open-Ended Survey

We are interested in hearing directly from parents and caregivers of children with TANGO2-related disorder about the positives, challenges, worries, and hopes they have about their child with TANGO2-related disorder. We are also interested in hearing directly from parents and caregivers about which things they are most hopeful that researchers will focus on, as they study TANGO2-related disorder. Below, please answer the listed questions.

POSITIVES

What are the three best things about being the parent of a child with TANGO2-related disorder?

CHALLENGES

What are the three main challenges about being the parent of a child with TANGO2-related disorder?

WORRIES

What are your three main worries about being the parent of a child with TANGO2-related disorder?

HOPES

What are your three main hopes about the future for your child with TANGO2-related disorder?

DESIRED OUTCOMES

What clinical outcomes are most important to you in your child's health journey? (For instance, improved quality of life, preventing loss of function, and so on)

RESEARCH "WISH LIST"

If you could make a "wish list" of topics that researchers would study related to TANGO2-related disorder, what would the TOP THREE topics be?

OTHER TOPICS

What other topics do you wish researchers would study related to TANGO2-related disorder?
