

Consensus clinical guidelines for the assessment of TSC-Associated Neuropsychiatric Disorders (TAND) All individuals with TSC should be screened for TAND at least annually and more detailed evaluations should follow from screening. In addition, all individuals with TSC should have a comprehensive formal evaluation at key developmental timepoints as outlined below in this table (de Vries et al., 2005; Krueger et al., 2013).

STAGE	AGE RANGE	GENERAL PURPOSE OF ASSESSMENT	GENERAL AREAS TO ASSESS	AREAS OF PARTICULAR CONCERN IN TSC	BEHAVIORAL, PSYCHIATRIC, AND ACADEMIC DISORDERS OF PARTICULAR CONCERN IN TSC
At diagnosis		Initial assessment of cognitive and behavioral profile	As listed for chronological age		
Infancy	Birth - 12 mos	To perform a baseline assessment for regular monitoring of development	Global standardized assessment of infant development	Impact of seizure onset and treatment on development	
Toddler	1y - 2y11m	To identify early developmental disorders Specific skills: <ul style="list-style-type: none"> • Gross and fine motor skills • Social-communication skills 	Global intellectual ability and adaptive behaviors	Quality of eye contact, joint attention, reciprocity	Autism and autism spectrum disorders (ASD) Severe aggressive outbursts Severe sleep problems
Pre-school	3 y to school entry	Evaluation of cognitive and behavioral profile to ensure the provision of appropriate educational programs	Global intellectual ability Specific neuropsychological skills: <ul style="list-style-type: none"> • Receptive and expressive language • Social-communication skills • Attentional and executive skills • Visuospatial skills • Motor skills 	Uneven profile of abilities Poor expressive language Poor reciprocity, peer interaction Poor regulation of affect and impulse Poor bilateral coordination	Autism and ASD ADHD and related disorders Self-injurious behavior
Early school years	6y-8y	Monitoring the child's ability to make appropriate educational progress	Global intellectual abilities Specific neuropsychological skills: <ul style="list-style-type: none"> • Receptive and expressive language • Social-communication skills • Memory • Attentional and executive skills • Visuospatial skills • Motor skills 	Best time to establish baseline to assess whether specific cognitive skills and academic performance are discrepant from global intellectual abilities Poor expressive language and word retrieval Rote learning difficulties Selective attention, sustained attention difficulties	Academic difficulties (reading, writing, spelling, mathematics) ADHD and related disorders Peer problems Aggressive behaviors

The consensus clinical guidelines for the assessment of TAND (continued)

STAGE	AGE RANGE	GENERAL PURPOSE OF ASSESSMENT	GENERAL AREAS TO ASSESS	AREAS OF PARTICULAR CONCERN IN TSC	BEHAVIORAL, PSYCHIATRIC, AND ACADEMIC DISORDERS OF PARTICULAR CONCERN IN TSC
Middle school years	9y-12y	Comprehensive review of child's abilities, specific learning difficulties, and behavioral problems in preparation for transition to secondary education	Global intellectual abilities Specific neuropsychological skills: <ul style="list-style-type: none"> • Receptive and expressive language • Social-communication skills • Memory skills • Attentional and executive skills 	Subtle deficits of social communication, unusual interests Poor working memory, episodic memory Planning, organizational abilities, multi-tasking difficulties	High functioning ASD/Asperger's Peer problems Academic difficulties (reading, writing, spelling, mathematics)
Adolescence	13y-16y	Determining individual needs and the support required for transition into adulthood	Global intellectual abilities Specific neuropsychological skills: <ul style="list-style-type: none"> • Attentional and executive skills • Vocational assessment with knowledge of cognitive strengths and weaknesses • Adaptive behavior and daily living skills 	Poor judgement, decision-making	Depressive disorders Anxiety disorders Peer problems Epilepsy-related psychotic disorders
Adults	18y+	Newly diagnosed adults: Assessment of cognitive, behavioral and vocational profile, determining bio-psycho-social needs	Global intellectual abilities Specific neuropsychological skills: <ul style="list-style-type: none"> • Attentional and executive skills • Memory skills 	Difficulty with integrational skills Working memory, episodic memory problems	Depressive disorders Anxiety disorders Epilepsy-related psychotic disorders
Adults (follow-up)	18y+	Monitoring for emergence of psychiatric problems or changes in existing cognitive and behavioral profile	Dependent adults: <ul style="list-style-type: none"> • Annual review of social care needs and support Independent adults: <ul style="list-style-type: none"> • Vocational advice • Genetic counseling as appropriate • Review if problems arise 	Pay particular attention to change in cognitive abilities or behavior Pay particular attention to change in cognitive abilities, vocational performance and behavior	Depressive disorders Anxiety disorders Epilepsy-related psychotic disorders

The table shows the time points recommended for evaluation and the goals of evaluation and lists specific areas of concern for each age group. Table reproduced with permission from de Vries et al. (2005) updated by de Vries 2014. Note: Many features listed in these columns can present at any age, but are listed here at stages most commonly associated with the emergence of such difficulties in TSC.