

Assessment of Neurodevelopmental Domains in FASD

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Based on the SIGN FASD guideline

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- **A diagnosis of FASD with sentinel facial features** may be made if an individual meets the following criteria:
 - simultaneous presentation of the three sentinel facial features (short palpebral fissures, smooth philtrum and thin upper lip);

AND

- prenatal alcohol exposure confirmed or unknown;

AND

- **Evidence of severe impairment in three or more of the identified neurodevelopmental areas of assessment**
- **or in infants and young children, presence of microcephaly**

A descriptor of FASD without sentinel facial features may be used if an individual meets the following criteria:

- confirmation of prenatal alcohol exposure;

AND

- Evidence of severe impairment in three or more of the identified neurodevelopmental areas of assessment.

For both diagnoses:

- Contribution of genetic factors should be considered in all cases and referral may be indicated in atypical cases or where PAE is uncertain.
- Growth impairment and other birth defects and/or health issues should be documented if present.
- Hereditary, prenatal and postnatal factors that may influence developmental outcome should be recorded. *Includes ACE's*

Evidencing severe impairment in three or more of the identified neurodevelopmental areas of assessment

- There is no single neuropsychological measure, nor pattern of neuropsychological profiles that is specific to all individuals with FASD. It is presumed that differences in the dose and timing of exposure, as well as interacting genetic and environmental influences on brain development account for the variability in presentations.
- A diagnosis/descriptor of FASD is made only when there is evidence of **pervasive** and **long-standing** brain dysfunction, which is defined by **severe impairment** (a *global score or a major subdomain score* on a standardised neurodevelopmental measure that is ≥ 2 SDs below the mean, with appropriate allowance for test error) in **three of more** of the following neurodevelopmental areas of assessment

SIGN identifies 10 domains

- motor skills
- neuroanatomy/neurophysiology
- cognition
- language
- academic achievement
- memory
- attention
- executive function, including impulse control and hyperactivity
- affect regulation
- adaptive behaviour, social skills or social communication

Neuroanatomy/ Neurophysiology

- Impairment is present when occipitofrontal head circumference is <3rd percentile; a seizure disorder has been diagnosed not due to known postnatal influences; or when brain imaging shows convincing evidence of structural brain abnormalities known to be associated with PAE and other aetiologies have been excluded.
- Although, a magnetic resonance imaging (MRI) scan is not required or necessary as a standard approach to assessing an individual suspected to have FASD, it may be an adjunct in determining the extent of effects on the brain or to rule out other disorders.

Affect

Includes mood and anxiety disorders - evidence of longstanding problem of dysregulation rather than short term response to adverse or unfavourable life events or conditions

Motor Skills Evidence

- Development assessment and full examination - must exclude other motor / neuromuscular difficulties
- Movement Assessment Battery for Children - ABC checklist (3-16 years) assesses fine and gross motor skills using 8 subtests which measures:

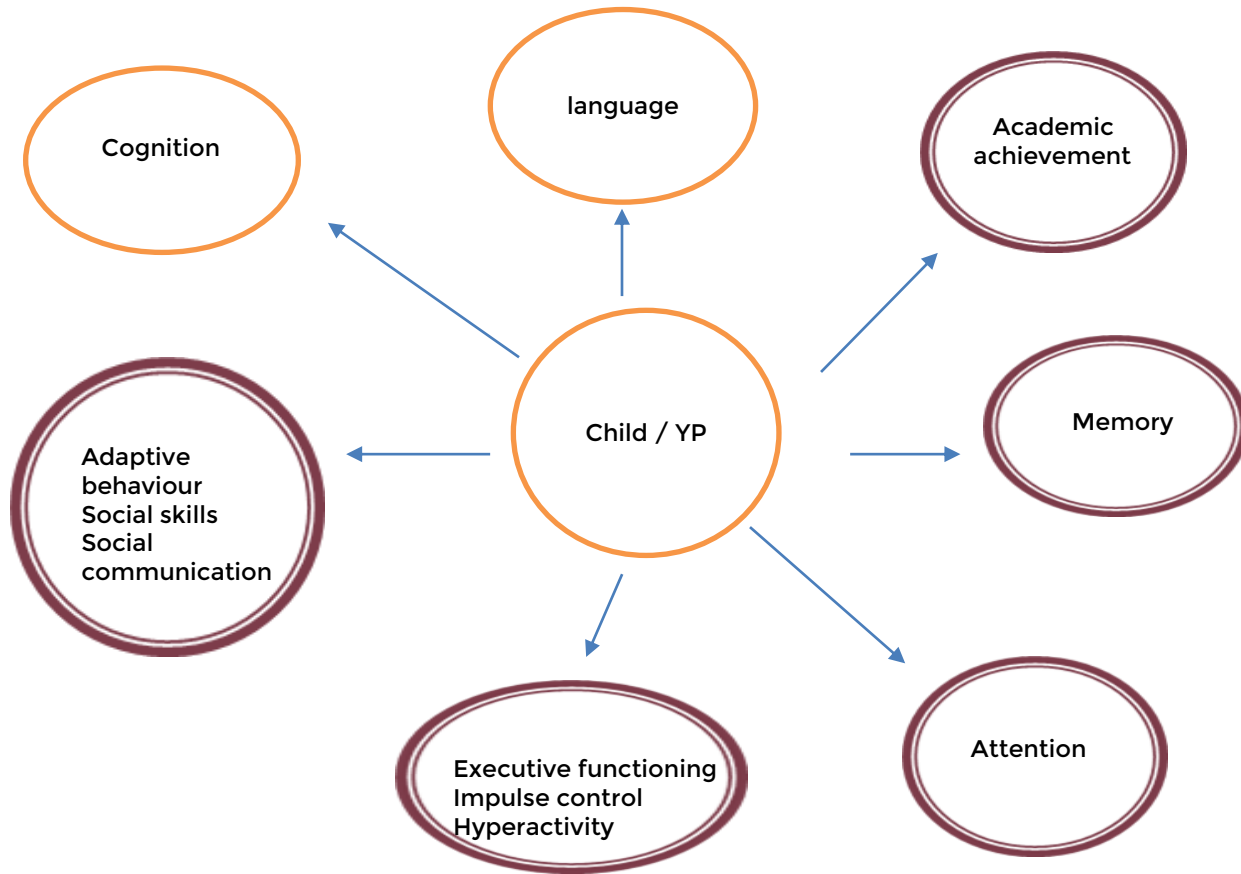
Manual Dexterity - Ball Skills- Balance

A score at or below the 5th percentile is in the red zone indicating definite motor impairment.

Neurodevelopmental Evidence

Assessment of the child or young person is for the purpose of making a diagnosis but also understanding the needs of this child / YP

Consider tools for each age group
Consider what is direct or indirect evidence



Nepsy II

cognitive assessment tool that can be tailored for children ages 3-16.

Beery Buktenica VMI

developmental test of visual motor integration
2- 18 yrs

Movement ABC

assessment tool
- to identify a delay or impairment in motor development in Children 3-16 yrs

WPPSI

The Wechsler
Preschool
and Primary
Scale of
Intelligence
2.5 - 7.5 yrs



CELF preschool

Clinical Evaluation of
Language Fundamentals
Preschool-2
3-7 yrs

Vineland Adaptive behaviour rating scales

designed to measure adaptive behavior of individuals from birth

ABAS-3

Third Edition - gives a complete picture of adaptive skills across the lifespan - from Birth

Sensory profile

Standardised tool used to evaluate children's sensory processing patterns
0 - 15 yrs

Development Assessment tools

SOGS
Griffiths
Bayleys

NEPSY II

Delis Kaplan

neuropsychological test
used to measure a variety
of verbal and nonverbal
executive functions for
both children and adults
ages 8-89 yrs

WISC V

The Wechsler
Intelligence
Scale for Children
6 - 17 years

WIAT

individual
assessment of
academic
achievement
4 yrs plus

Vineland

ABAS-3

Bruninks Oseretsky test

The BOT-2 is an
individually administered measure of
fine and gross motor skills
4- 21 yrs

WPPSI

2-7yrs



5 to 8 years

Childs memory scales

assess children's memory
abilities by comparing
memory and learning to
ability, attention, and
achievement 5 - 16 yrs

CELF

Clinical Evaluation of
Language Fundamentals
5 - 22 yrs

Beery VMI

TEA-ch

Test of Everyday
Attention for Children
5 - 15 yrs

SCQ

ASD screening
tool from 4 yrs

Sensory profile

auditory filtering and sensitivity
seems to be particularly
affected in FASD

Movement ABC

Rey Complex figure test

neuropsychological
assessment tool used to
assess the visuo-
constructional ability and
visual memory 6 yrs plus

CCC 2

Children's Communication
Checklist 4 - 17 yrs

Connors

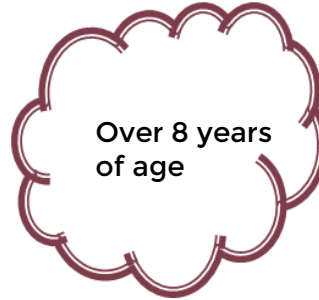
ADHD screening tool
6 - 18 yrs

WISC V
6 - 16 yrs

CELF 5th edition

Delis Kaplan

WAIS
The Wechsler
Adult Intelligence
Scale
16 yrs plus



BRIEF
Behaviour Rating
Inventory of
Executive Functioning
5 - 18 years
11 - 18 years

**Connors
ADHD**

**SCQ
ASD**

BADS
Behavioural Assessment of the
Dysexecutive Syndrome
battery of tests designed to assess the
effects of dysexecutive syndrome,
a cluster of impairments
generally associated with damage to the
frontal lobes of the brain.
8-16 years

Vinlands

ABAS - 3

Summary of assessment

- Collate all data for direct and indirect evidence
- Formulation of findings in a report
- Implications for child / young person
- Recommendations