Ten Brain Domains (Functions) Affected by FASD

Alcohol affects the growth and formation of the brain, and this is often seen in an individual's behavior and development. The following brain functions or domains are evaluated by a diagnostic team during an FASD assessment.

ACADEMIC ACHIEVEMENT

- May have difficulty in school: reading, math, comprehension (understanding) and abstract concepts

ATTENTION

- Can be easily distracted, difficulty paying attention and sitting still

COGNITION

- Difficulty reasoning, planning, solving problems and understanding complex ideas
- Wide rage of IQ scores are found

LANGUAGE (Expressive and receptive)

- Delay in language development
- Difficulty understanding lengthy conversation and instructions
- May speak well, but not fully grasp the meaning
- Can repeat instructions or rules, but may not follow through

MEMORY

- Difficulty with long-term, short-term and working memory
- May appear to lie, but is actually filling in the blanks when unable to remember
- Trouble with memorizing and may seem forgetful
- Difficulty with accessing, selecting and organizing information when needed

NEUROANATOMY/NEUROPHYSIOLOGY (Brain structure and function)

- Could have a smaller head, brain size, seizure disorder and/or abnormal findings on a scan (ex: MRI or EEG) consistent with prenatal alcohol exposure

EXECUTIVE FUNCTIONING

- May have trouble with planning, sequencing, problem solving and organizing
- May be impulsive and/or hyperactive
- Difficulty understanding cause and effect and controlling behaviour
- Challenges with transitions and change
- Often repeats mistakes
- Difficulty with concepts, abstracts ideas, consequences and managing time

ADAPTIVE BEHAVIOR, SOCIAL SKILLS AND SOCIAL COMMUNICATION

- May not understand personal boundaries and have difficulty reading social cues
- May be socially vulnerable and easily taken advantage of
- Difficulty seeing things from another's perspective
- Socially and emotionally immature and may behave younger than actual age
- May have trouble with hygiene, money and coping skills

MOTOR SKILLS

- Difficulty with balance, strength, endurance, coordination, reflexes and muscle tone
- Difficulty with printing, using pencil and scissors

AFFECT REGULATION

- Includes anxiety, depression and mood imbalance in the severe range meets Diagnostic and Statistical Manual-V criteria

The Canadian FASD Diagnostic Guidelines were revised in 2015 and the Sensory Doman has been removed from the list above; however, the Manitoba FASD Centre will continue to measure and consider sensory functioning (see below) during an FASD assessment.

Sensory Processing

Student with Sensory processing issues may be over or under sensitive (or both) to different sensory stimuli eg. Touch, taste, visual, auditory, smell, movement and body awareness. This may present as:

- May be easily overwhelmed by bright lights, people, noisy crowded overstimulating environments (eg. recess, gym and music class, lunchroom, assemblies, field trips)
- Easily startled by loud sudden noises or unexpected touch
- Avoids touching people or hugging them. Refuses to wear certain clothing or touch certain textures
- Invades other people's personal space
- High or low tolerance for pain
- Clumsy and uncoordinated
- Gets upset by small changes in routine or environment and avoids trying new things
- Difficulty self-regulating
- Overwhelming sensory experiences may trigger a fight, flight or fright response