

## Foetal Alcohol Spectrum Disorders and their consequences

Foetal Alcohol Spectrum Disorder or FASD is an umbrella term used to describe a range of conditions including Foetal Alcohol Syndrome (FAS), Partial Foetal Alcohol Syndrome (PFAS), Alcohol Related Neuro developmental Disorder (ARND), Alcohol Related Birth Defects (ARBD) and Foetal Alcohol Effects (FAE).

*All forms of FASD are caused by alcohol being consumed by the mother during the nine months of pregnancy. It is a lifelong and permanent condition, although it can be managed medically to some extent if identified and protective factors can be put in place to reduce the impact of secondary disabilities such as depression and substance misuse.*

Exposure to alcohol in the womb can affect the foetus in a number of ways resulting in a range of primary disabilities. Most severe are the intellectual disabilities as a result of the effects of alcohol on foetal brain development and the central nervous system (CNS). Damage to the brain is often, though not always, accompanied by certain distinctive facial deformities, as well as physical, intellectual and emotional developmental problems, memory and attention deficits and a range of cognitive and behavioural problems. Further secondary complications such as mental illness and alcohol and drug addiction may also develop. As well as abnormal facial features, babies born with FAS are often smaller than other babies and typically remain smaller throughout their lives. However most FASD children look normal and generally have a good long-term memory, but their short-term memory is impaired. During childhood about 60% of children with FASD have ADHD. During adulthood, most adults with FASD have clinical depression.

It is difficult to quantify the numbers of children affected. In the UK accurate identification of FASD is not yet as consistent as in some other countries such as the US and Canada, but it has been estimated that in Western countries as many as 9 per 1,000 live births involve children affected by Foetal Alcohol Syndrome (FAS), Partial Foetal Alcohol Syndrome (PFAS) or Alcohol Related Neurodevelopmental Disorder (ARND). Of the children concerned, 10 -15 per cent are affected by FAS, 30 to 40 per cent by PFAS and nearly half by ARND. However FASD can be misdiagnosed as ADHD, oppositional defiant disorder (ODD), conduct or bi polar disorders amongst others.

The damage caused by alcohol does depend on a number of factors including how much alcohol is consumed by the mother, the patterns of drinking and the stage of pregnancy. Other contributory risk factors include hormonal interactions and the genetic makeup of the mother and the foetus, mother's general health and nutrition, age, stress, polydrug use (including tobacco use) and low socioeconomic status. The most at risk populations are those that experience high degrees of social deprivation and poverty, especially indigenous or native populations.

### Commonly used diagnostic terms:

**FAS with confirmed maternal alcohol exposure:** known, significant prenatal exposure to alcohol and the child exhibits three characteristics:

- **growth retardation:** height and/or weight very much below normal—below the tenth percentile.
- **central nervous system involvement:** one or more of the following conditions in the child: head circumference below the third percentile, developmental delay or intellectual disabilities, and/or other less prevalent conditions.
- **characteristic facial features:** these include short eye slits, elongated mid-face, thin upper lip and flattened facial bone structure, most noticeable during early childhood.

**FAS without confirmed maternal alcohol exposure:** there is no way to accurately verify the mother's alcohol use. This diagnostic category is helpful for the many children with FAS in foster and adoptive homes, where details about their prenatal histories may be unavailable.

**Partial FAS with confirmed maternal alcohol exposure:** here a child has a confirmed history of prenatal alcohol exposure with some, but not all, of the characteristics of FAS such as facial features, but exhibits other signs such as growth deficiency, damage to the central nervous system, and/or a complex pattern of behaviour and cognitive abnormalities inconsistent with developmental level and which cannot be explained by family background or environment alone. *Partial* does not mean that the condition is less severe than FAS. In fact, Partial FAS can have equally serious implications for education, social functioning and vocational success.

Many children diagnosed as Partial FAS would have previously been designated **FAE (Foetal Alcohol Effect)**. Knowledge of the child's pre-natal history is still very important, the birth mother's drinking history becomes a crucial piece of the puzzle from a medical point of view.

**Alcohol Related Birth Defects (ARBD):** this refers to a child with specific physical malformations resulting from confirmed maternal alcohol exposure which may include heart, skeletal, sight, hearing and visual problems.

**Alcohol Related Neurodevelopmental Disorder (ARND):** this applies to a child with a confirmed history of prenatal alcohol exposure who exhibits central nervous system damage, which is inconsistent with developmental level and cannot be explained by family background or environment alone (e.g. learning difficulties, poor impulse control, poor social skills, problems with memory, attention and judgement). As children with disabilities due to prenatal alcohol exposure frequently come from environments where there has been neglect and/or abuse, it can be difficult or impossible to separate which problems are due to alcohol effects and which can be explained by the family living situation. Usually there is a combined effect.

### **Common characteristics of children with FASD:**

As babies they are often irritable and trembly, and may cry a lot, with erratic sleep patterns, a high susceptibility to illness, feeding difficulties and a weak sucking reflex and muscle tone. They seem to be very sensitive to sights, sounds, and touch, slow to reach developmental milestones and experience problems with bonding. Overall they often fail to thrive.

As toddlers their lack of interest in food and disrupted sleep patterns continue, they are often more interested in people than objects and can be overly friendly, highly social and indiscriminate with relationships. They may have poor motor coordination and speech delay, but can also be very talkative, which sometimes hides the speech impairment. Children have short attention spans and flit from one thing to another, they can be hyperactive, prone to temper tantrums and unable to understand danger. Changes are unwelcome, routines preferred.

During the early years at school their arithmetic may be more of a problem than spelling and reading and attention deficits and poor impulse control become more apparent. They find it hard to learn from experience and need constant reminders for basic activities at home and school. Gross motor control problems, such as clumsiness are evident alongside fine motor problems such as trouble with handwriting, buttons, zippers, shoe laces, etc.

They lack social skills, find it difficult to make friends, to share, to wait for a turn, to follow the rules or to cooperate and may prefer to play with younger children or adults rather than with their peer group, Memory, especially short term, can be poor, they tend to exist in the “here and now” and sleep disturbances continue.

As children with FASD progress through school their delayed physical and cognitive development becomes more obvious and their reading and spelling skills usually reach a peak. They find it increasingly difficult to concentrate, complete their work and master new academic skills, tending to fall farther behind their peers. Understanding concepts and ideas is problematic, usually they are very concrete thinkers, but good verbal skills, a superficially friendly social manner and good intentions often mask how serious the problem is. Maths tends to be the most difficult task, suggesting poor memory, poor abstract thinking and difficulty with basic problem solving. At this stage a pattern of school suspensions may start which, as they get older, leads on to increasing behavioural disruption in school, truancy, school refusals and school dropouts.

Increasingly they are often misjudged as being lazy, stubborn and unwilling to learn, they may have learned to *act* as though they understand, but cannot follow through on their own, lacking critical thinking, judgement skills and the ability to link cause and effect. Managing time or money presents problems. In behaviour they are impulsive, easily influenced, subject to peer manipulation and exploitation, they show a total lack of inhibition and find it difficult to show remorse or take responsibility for their actions. Frequently behaving in ways that place themselves or others at risk they are now at increased likelihood of problems with the law and involvement in the criminal justice system.

Emotionally they find it difficult to identify and label feelings, experience low motivation and low self-esteem and underlying clinical depression may become evident.

### **Secondary disabilities:**

*The primary disabilities that result from exposure to alcohol in the womb can be severe and long lasting, however the secondary disabilities that occur as a result of the primary disabilities can also have a significant and adverse impact on those affected. In many cases it may well be difficult to unravel the interlinking consequences of neglectful or abusive care.*

These problems include:

- talking too much and too quickly, but having little to say
- liking to be the centre of attention
- outgoing and friendly manner, which becomes indiscriminate and/or overly intrusive
- impulsiveness, lack of inhibition, and naiveté regardless of age and gender
- difficulty telling time, knowing the value of money, and interpreting social cues
- problems sequencing tasks or instructions
- a low tolerance for frustration
- difficulty distinguishing fantasy from real life
- tending to gravitate to young children or adults rather than people their own age
- depression, anger and aggression, low self-esteem and other mental health problems
- school problems and/or disrupted school experience
- running away
- substance abuse
- inappropriate sexual behaviour
- trouble with the law

In an ongoing study of 415 individuals with FASD carried out by Streissguth (1997) the most common secondary disability identified was mental illness with over 90% of the sample having mental health problems. 72% had been victims of physical, sexual or emotional abuse and almost half of the adults reported making suicide threats and a quarter suicide attempts. At the younger end of the spectrum almost 6% of adolescents had been seen in relation to self-harm. More than half of those over 12 years old had spent time confined as in patients for treatment of mental illnesses or substance misuse.

Nearly half the children of school age had disrupted school careers, by late adolescence this increased to almost three quarters. More than half of men and nearly three quarters of women experienced substance abuse problems and over 60% of the sample had been in trouble with the criminal justice system with children and young people committing a range of crimes against persons and property.

Harmful sexual behaviours were reported in 45% of those aged 12 and over, and 65% of adult males although this figure may well have been under reported. The most common problem sexual behaviours included making sexual advances, sexual touching; promiscuity, exposure, voyeurism, masturbation in public, incest; sex with animals; and obscene phone calls.

The greatest risk factor associated with secondary disabilities is exposure to sexual or physical violence, and those children who have grown up in such an environment are four times as likely to exhibit inappropriate sexual behaviour.

Of the 80 mothers in the study every one of them had a history of alcohol misuse and 96% had at least one mental health disorder, some with multiple illnesses including 77% with Post Traumatic Stress Disorder, 59% with a major depressive disorder and 22% with bipolar disorder. Almost every woman had been physically or sexually abused and more than three quarters reported a parent with an alcohol problem.

These parental factors may lead to what is termed co-occurrence. People with mental health problems often use substances to self medicate, many mental illnesses also have a genetic component which may well be passed on to their offspring, as do substance misuse disorders, therefore the risk of a woman with a mental illness and a substance misuse disorder giving birth to a child with FASD and vulnerabilities for substance misuse and mental illness is significant. Stress is known to exacerbate these underlying disorders.

### **Protective Factors:**

Although FAS is a lifelong condition it is possible to manage the primary effects and to reduce the development of secondary disabilities through:

- Living in stable home with nurturing parents or carers and the minimum of changes in household and routine.
- Protection from violence, from witnessing or being victimized by violence
- A school environment which recognises and understands the child's disabilities and works to promote their abilities and talents
- Early diagnosis, which is a universal protective indicator, and access to services

**References and useful links:**

Foetal Alcohol Spectrum Disorders: a guide for healthcare professionals 2007  
<http://www.nofas-uk.org/PDF/BMA%20REPORT%204%20JUNE%202007.pdf>

Foetal Alcohol Syndrome Aware UK: This website has been designed to raise awareness, give informed choice, provide information and support for people affected by / interested in FAS.  
[www.fasaware.co.uk](http://www.fasaware.co.uk)

Parenting children affected by Foetal Alcohol Syndrome: a guide for daily living  
[http://www.fasaware.co.uk/education\\_docs/daily\\_guide\\_for\\_living.pdf](http://www.fasaware.co.uk/education_docs/daily_guide_for_living.pdf)

Michael R. Baldwin, 2007. *Fetal alcohol spectrum disorders and suicidality*, Alaska, USA  
[http://ijch.fi/issues/66%20Suppl%201/IJCH%2066%20Suppl%201\\_Baldwin.pdf](http://ijch.fi/issues/66%20Suppl%201/IJCH%2066%20Suppl%201_Baldwin.pdf)

Teresa Kellerman 2002 *Secondary Disabilities in FASD*  
<http://www.come-over.to/FAS/fasconf.htm>

Ann Streissguth: [Prospective Longitudinal Study on Health and Pregnancy](#)  
<http://depts.washington.edu/fadu/FADU.projects.html#NIAAAlong>

An initial and core assessment of a baby with FAS  
<http://www.ncb.org.uk/careplanning/pdf/Samnewman-ica-summary.pdf>

Foetal alcohol spectrum disorders: Community Care January 2010  
<http://www.communitycare.co.uk/Articles/2010/02/12/113620/child-behaviour-disorders-linked-to-mums-drinking-while-pregnant.htm>

Fetal Alcohol and Drugs Unit, Washington DC  
<http://depts.washington.edu/fadu/>