

Foetal Alcohol Syndrome Disorders

The BMA Board of Science recently classified Foetal Alcohol Syndrome as “...the leading known cause of non-genetic intellectual disability in the Western world”. **Aric Sigman** offers guidance for teachers and parents on Foetal Alcohol Syndrome disorders.

The harmful effect of alcohol on children is a growing concern for schools, parents and governments. But, while alcohol awareness lessons are increasingly directed at younger and younger age groups, an entirely different aspect to this has suddenly come to light: children drinking alcohol before they are even born.

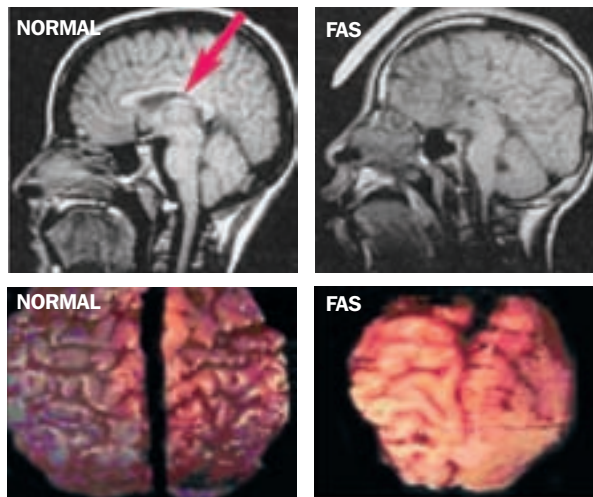
At least half of all pregnancies are unplanned and so many women who become pregnant are unaware of this for several weeks or more. And if the mother is drinking alcohol, so is her unborn child. This is why there has been a significant trend in pregnant women abstaining or drinking little and infrequently.

Alcohol (ethanol) is considered ‘neurotoxic’. In discussing the effect of a mother drinking alcohol on the brain cells of her foetus, a study published in the *Annals of Medicine* warns “a single episode of ethanol intoxication lasting for several hours can trigger a massive wave of apoptotic neurodegeneration in the developing rat or mouse brain”, a finding they say is highly relevant to human foetuses.

One of the consequences of drinking heavily while pregnant is bearing a child who has one of the foetal alcohol spectrum disorders (FASDs) a group of conditions which can include physical problems and problems with behaviour and learning. Often, a child with an FASD has a combination of these problems. These conditions can affect each child in different ways, and can range from mild to severe.

A child with an FASD may have:

- Abnormal facial features, such as a smooth ridge between the nose and upper lip (this ridge is called the philtrum)
- Small head size



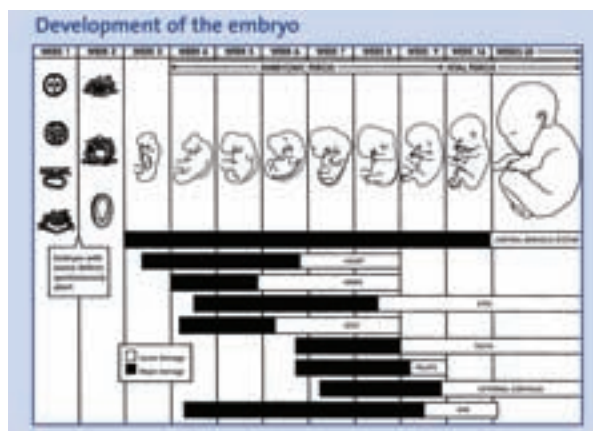
Top left: Brain scan of a normal 13 year old female. The arrow points to the CORPUS CALLOSUM.

Top right: Brain scan of a 14 year old male with FAS. The CORPUS CALLOSUM is absent.

Above left: Brain of normal baby

Above right: Brain of baby with FAS

- Shorter-than-average height
- Low body weight
- Poor coordination
- Hyperactive behaviour
- Difficulty paying attention
- Poor memory
- Difficulty in school (especially with math)
- Learning disabilities
- Speech and language delays
- Intellectual disability or low IQ
- Poor reasoning and judgment skills
- Sleep and sucking problems as a baby



Vulnerability of the foetus for birth defects during different periods of development. The dark portion represents the most sensitive periods of development, which would result in major structural abnormalities in the child. The light portion of the bars represents periods of development during which physiological defects and minor structural abnormalities could occur.

- Vision or hearing problems
- Problems with the heart, kidneys, or bones

Because the developing brain affects such a vast array of developmental processes, there are not clear and distinct categories for FASDs. In some respects it's a matter of degree and different terms are used to describe FASDs, depending on the type of symptoms.

FASD in the Classroom

FASDs make children very difficult to teach because it involves permanent brain damage and so affects the very basis of learning and socialisation. Yet FASDs are barely recognised in our society, particularly in our schools. Teachers in England have no official guidance on how to teach children with this condition.

One of the main reasons for this oversight is that in many instances FASDs go completely undetected. Most children with FASD may look normal and appear very articulate, but the way they think and process information is confused and it is often thought they are either lazy or being difficult.

Diagnosing FAS for example can be hard because there is no medical ‘test’ for it. And other disorders, such as ADHD (attention-deficit/hyperactivity disorder) share some symptoms with FAS: short attention spans, difficulty in carrying out instructions and hyperactivity. However the two conditions differ in very important respects and confusing the two can have potentially serious consequences. Most pupils are either not diagnosed, or they are misdiagnosed - usually as having ADHD.

How teachers can help

Montessori teachers are in a crucial position to help children with FASDs to develop to the best of their abilities.