FASDs in Context

The four disorders within the fetal alcohol spectrum (FAS, pFAS, ARND, ARBD) are neurodevelopmental disorders. This term applies to a specific group of developmental features (delays, gaps, variations) that affect the brain and nervous system of the developing child. These developmental challenges typically interfere with learning, adaptability, cognition, behavior, sensory integration, language, organization, and motor development.

A range of neurodevelopmental disorders exist. Some examples include Autism, Fragile X Syndrome, Asperger Syndrome, Attention-Deficit Hyperactivity Disorder, Cerebral Palsy, and William's Syndrome (which also shares a philtrum feature with FASDs). As a group, neurodevelopmental disorders affect about one in twenty children.

Some neurodevelopmental disorders are caused by genetics, or by a combination of genetics and environment, or by early injuries to the brain, or by unknown factors. In the case of FASDs, the neurodevelopmental disorder is caused by exposure to alcohol in the womb. Although reliable aggregate numbers for FASDs do not exist (or are slightly conflictual), it is generally thought that FAS affects between one and three people per thousand, and the remaining three disorders within the spectrum (pFAS, ARND, ARBD) affect approximately ten people per thousand.

FASDs are the leading known preventable cause of non-inherited developmental disorders and birth defects. (By way of comparison, autism affects about .6 per cent of the population; FASDs affect about 1.3 per cent, which is roughly twice the number.) The only way to prevent FASDs is for pregnant mothers to avoid drinking alcohol. No amount of alcohol consumed during pregnancy is considered safe.

FAS was first recognized as a disorder in 1973. (Autism was recognized in 1943.)
The terms ARND and ARBD were proposed in 1996.
Research on FASDs is new and continually evolving.

Neurodevelopment and FAS Facial Characteristics

"I have never seen anybody with [all three facial characteristics] who doesn't have some brain damage. In fact in studies, as the face is more FAS-like, the brain is more likely to be abnormal. The only face that you would want to counsel people or predict the future about is the full FAS face. But the risk of brain damage increases as the eyes get smaller, as the philtrum gets flatter, and the lip gets thinner. The risk goes up but not the diagnosis.

At one-month gestation, the top end of your body is a brain, and at the very front end of that early brain, there is tissue that has been brain tissue. It stops being brain and gets ready to be your face ... Your eyeball is also brain tissue. It's an extension of the second part of the brain. It started as brain and 'popped out.' So if you are going to look at parts of the brain for alcohol damage, or any kind of damage during pregnancy, eye malformations and midline facial malformations are going to be very actively related to the brain across syndromes ... and they certainly are with FAS."

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2002