

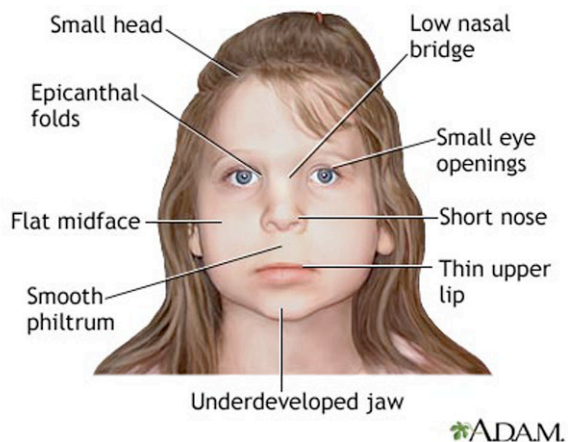
# Alcohol and the Unborn: A Dangerous Combination

Fetal Alcohol Syndrome (FAS) is the most devastating birth defect that can occur as the result of drinking by a pregnant woman. The effects last a lifetime. The term FAS was first introduced in 1973 by Drs. Kenneth Jones and David Smith at the School of Medicine, University of Washington. The diagnostic criteria for FAS consists of three points: growth deficiency, characteristic facial abnormalities and dysfunction of the central nervous system. We will consider each of these areas in more detail.

## Growth Deficiency

These babies are born abnormally small, including weight, height and head circumference. Even as adults, height and head circumference tend to remain below normal.

Medical conditions that are common among FAS children include: hip displacement, club foot, heart defects, cleft-lip and palate, abnormal finger joints and curved fingers.



## Facial Abnormalities

FAS children almost always exhibit abnormalities of the eye. The eye is developed in the first trimester. Many women stop drinking after they learn they are pregnant, which is helpful, but irreversible damage may already have occurred. FAS children have small eye openings and may have drooping eyes and/or strabismus (crossed-eyes). Other features include a short nose, thin upper lip, indistinct philtrum (grooves between the nose and mouth) and small midface. In adolescence they tend to begin looking more normal.

## Dysfunction of the Central Nervous System

FAS children typically have average IQ scores in the borderline range of functioning (in the low 70's) although some range from intellectually deficient to average. They have difficulty with general intellectual functioning and academic skills. They experience:

- attention and memory deficits
- hyperactivity
- difficulty with abstract concepts like math, time and money
- poor judgment
- immature behavior and little impulse control
- delayed reaction time
- lack of balance and poor motor skills

Problems functioning in social settings tend to worsen as they reach adolescence and adulthood. It is difficult for them to stay in school, keep a job or maintain healthy relationships. The boys frequently have trouble with the law, and unwanted pregnancies are common with the girls. Many are institutionalized, cared for in foster homes or in supervised group homes. Over 90% of FAS individuals have mental health problems and most of them seek professional help.

In the first three months of fetal development alcohol causes physical damage; in the second trimester alcohol increases the risk of spontaneous abortion; and in the third trimester alcohol can cause growth deficiency. Early alcohol exposure (first few weeks) may be as detrimental on fetal brain development as alcohol exposure throughout the pregnancy. The nervous system, which includes the brain, continues to develop throughout the entire pregnancy so this proves that there is no safe time or amount to drink during pregnancy.



Four ways alcohol causes damage to the developing fetus include:

- 1) excessive cell death
- 2) impaired cell development, including growth and division
- 3) disruption of cell migrational pattern, a cell that has a particular place to go in the brain may end up in the wrong location
- 4) inhibited nerve growth prevents messages from getting from one area to another

In the past, the term Fetal Alcohol Effects (FAE) referred to people who were adversely affected by prenatal alcohol exposure but who did not fulfill all the criteria of FAS. However, the term was not used uniformly so the Institute of Medicine of the National Academy of Sciences has replaced FAE with three more definitive categories: partial FAS, alcohol-related birth defects (ARBD), and alcohol-related neuro-developmental disorder (ARND). Partial FAS is similar to the old FAE designation. ARBD includes defects in several organ systems, such as the heart, kidney, eyes and ears. ARND affects central nervous system development and/or behavioral or cognitive abnormalities.

To qualify for any of these diagnoses, there must be confirmed maternal alcohol exposure. This means that the pregnant woman either consumed a substantial regular amount of alcohol or was a binge drinker (consuming at least five drinks in a row).

Conditions discussed are irreversible. It is believed that a significant number of individuals are not properly diagnosed. Failure to properly identify those individuals results in lack of the treatment and help they deserve. More attention is being given to develop ways to teach and mentor these individuals.

It is now estimated that in the United States at least 10 of every 1,000 live births have impairment from prenatal alcohol exposure. The comprehensive lifetime cost of caring

for one person with FAS is estimated to be over 4 million dollars. This means each year taxpayers pay \$1.9 billion to treat children and adults diagnosed with FAS - a preventable condition.

A new study suggests that exposure to alcohol during pregnancy can predict the amount of alcohol problems a child will experience in adulthood. The mother's drinking increases the risk of her child having alcohol problems as an adult.

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