

# FETAL ALCOHOL SYNDROME

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## FETAL ALCOHOL SYNDROME

### Condition Description

The most common cause of brain damage before birth (called congenital neurological deficits) is alcohol intake by the mother during pregnancy. Alcohol intake during pregnancy causes a wide range of damage to an unborn child and results in many different disorders (called fetal alcohol spectrum disorder). The degree of damage varies according to the amount of alcohol consumed and the particular time of pregnancy that the alcohol is consumed. Other factors such as maternal nutrition also contribute to the variation in the effects on the baby. A pattern of binge drinking is considered the most damaging (large amounts of alcohol consumed rapidly). In the first trimester of pregnancy, alcohol interferes with the organization of brain cells. Weeks 3-8 of fetal development are considered to be an especially critical period for brain damage from alcohol exposure. Exposure to heavy drinking between the 10<sup>th</sup> and 20<sup>th</sup> week is most likely to cause the physical features (often known as fetal alcohol syndrome). In the third trimester the baby's hippocampus is most affected, leading to learning problems such as difficulties with reading and math.

Mild damage is described as fetal alcohol effect (FAE). There is a continuum of effects of alcohol exposure, and the new term for this range of conditions is fetal alcohol spectrum disorder. Mild damage will include decreased intellectual function, visual problems, and high pain tolerance. Most children will be shorter and lighter than average for their ages.

About 85% of children with fetal alcohol spectrum disorder have characteristic facial features (wide-set eyes, thin upper lip, flat nasal philtrum, small head size called microcephaly). The degree of facial involvement does not correlate with the degree of brain dysfunction for the child, making the hidden effects of alcohol exposure the most damaging to the child, long-term.

Other children do not have characteristic facial features but have significant brain damage affecting their intellectual function and judgment (termed fetal alcohol effect). Some researchers divide the physical features of fetal alcohol spectrum disorder into three categories: 1) Fetal Alcohol Syndrome (FAS) where children have all the facial characteristics of prenatal alcohol exposure; 2) Partial Fetal Alcohol Syndrome (PFAS) with only partial facial characteristics; and, 3) Alcohol-Related Neurodevelopmental Disorder (ARND) with little facial deformity. Regardless of the terminology, fetal exposure to alcohol has a very serious effect on the developing brain, and its effects continue throughout life.

Some preliminary research shows that the father's alcohol use may also affect the unborn child's intellectual and social development.

### Prevalence

Prevalence of alcohol-related conditions is very hard to estimate, though some statistics indicate that up to 20% of children have been exposed to alcohol prenatally. In some countries that rate of exposure may be much higher (in



Minnesota Children with Special Health Needs  
 85 East Seventh Place  
 P.O. Box 64882  
 St. Paul, MN 55164-0882  
 (651) 201-3650 1-800-728-5420  
[www.health.state.mn.us](http://www.health.state.mn.us)

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Russia, for example). Because not all children demonstrate the facial features, it is under-diagnosed. Perhaps 60% of individuals in penitentiaries were exposed to alcohol before birth, according to some studies.

Epidemiologic studies in the US estimate an overall incidence of 1 in 500 live births, occurring in 2-6 births per 1000 Caucasians, 6 per 1000 African-Americans, and up to 20 per 1000 American Indians.

### Common Associated Conditions

Infants with FAS/FAE are typically born with low birthweights and may have failure to thrive (slow growth and weight gain in infancy and early childhood). Severe fetal alcohol exposure will cause significant cognitive deficits (decreased intelligence), learning problems such as dyslexia, and behavior problems such as attention deficit disorder, hyperactivity, and sociopathic tendencies. About 20-50% of alcohol-exposed children will have other physical conditions such as cleft lip and palate, heart defects, immune problems, epilepsy, cerebral palsy, renal damage or heart failure.

### Short-term Treatment and Outcomes

There is no treatment for fetal alcohol syndrome effects, but intervention during the early childhood years is crucial to assist the child in as many ways as possible to develop social, life and educational skills. Drawing on the child's strengths and setting small achievable goals will be a good starting point in parenting and teaching children who have had alcohol exposure. Assessment by an interdisciplinary team experienced in caring for children with the disorder will be very helpful, and referral to home-based programs sponsored by school districts is indicated. Social workers, psychologists and speech/language therapists can collaborate with teachers and parents to design an Individual Education Plan (IEP). Working together to find out what

motivates the child, setting achievable goals and consistently rewarding good behavior can be effective.

### Long-term Treatment and Outcomes

Studies have found considerable social difficulties among children with fetal alcohol syndrome disorders. Mental problems occur in 95%, school difficulties in 60%, problems with the law with a high rate of incarceration in 60%, and sexual misbehavior in about 50% of those affected. Long-term treatment may include supervised living arrangements and close monitoring because of poor judgment, memory problems, and impaired decision-making. Most children with prenatal alcohol exposure will have limited life skills regarding relationships and decision-making. Mental illness is common, including depression, withdrawal, isolation and unpredictable behavior. A psychiatrist might be very helpful, and some children do respond to medications. Many go on to misuse drugs and alcohol themselves. Employment is difficult for many because of those problems, and a sheltered employment setting might be a realistic goal for later adolescence.

### Common Complications

Most children will have some attachment issues in that they will have difficulty in forming meaningful relationships and displaying affection appropriately. This becomes very difficult in adolescence when they may have sexual relationships impulsively. Their inability to determine right from wrong can lead to legal infractions, and they typically do not learn from the consequences of their actions.

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### Implications for Children's Development

Studies vary in their descriptions of the effects of alcohol exposure on development.

Comprehension, money and time concepts, emotional maturity and social skills are the areas where development is typically most affected. Children are easily influenced by others and can be vulnerable to victimization. They are typically very verbal, and they may have good long-term visual memory. Their positive characteristics need to be identified and used to build programs for their long-term skill development and behavior management.

Children exposed to alcohol will have difficulty with behavior management, especially when stressed or over-stimulated. Maintaining good behavior is typically outside the child's control. Parents can be greatly challenged in child-rearing. Behavior problems in children with FAS are often blamed on poor parenting skills. However, even when raised in the best possible home environment, children who were alcohol-exposed have very severe problems. Many children will require a protected environment with close supervision for the rest of their lives.

Intervening with alcohol-exposed children requires patience, skill and understanding of their deficits. Social communication and peer relationships are particularly targeted because of the many life-long difficulties that are reported among adults who were exposed to alcohol prenatally. Resources for families and educators have been developed and many are on the internet. Family support organizations can be helpful.

Assessment clinics have been set up in major centers for diagnosis, ongoing intervention and support. School systems are challenged to provide appropriate services for children with FAS/FAE, many of whom are placed in the emotional/behavioral disorder special education programs. Individual education plans will be very important. Anger-management programs may be helpful, and building self-esteem will be a goal. Protecting the child from competitive situations, and trying to avoid exposure to violence in the media can be helpful as the child may not be able to separate fantasy from reality.

Prepared for Minnesota Children with Special Health Needs by:

Linda L. Lindeke, Ph.D., R.N., C.N.P.

Associate Professor University of Minnesota  
School of Nursing & Department of Pediatrics