



## **FETAL ALCOHOL SYNDROME**

### **WHAT IS FAS?**

FAS stands for Fetal Alcohol Syndrome. FAS, a disorder characterized by growth retardation, facial abnormalities, and central nervous system dysfunction (CNS), is caused by a woman's use of alcohol during pregnancy.

### **FAS IS POTENTIALLY 100% PREVENTABLE. WHAT ARE FAE, ARND, AND ARDD?**

Babies affected by alcohol can have some or all of the clinical signs of FAS. Other terms have been used to describe children who have some, but not all, of the clinical signs of FAS. Three such terms are FAE, ARDD and ARND. In the past, Fetal Alcohol Effects (FAE) was generally used to describe children who had prenatal alcohol exposure, but only manifested two of the three major components of FAS (i.e., growth retardation, typical facies and central nervous system impairment). Because experts in the field were unable to agree on the case definition for FAE, the Institute of Medicine (IOM) coined two terms that separately described disabilities and central nervous system abnormalities associated with prenatal alcohol exposure: alcohol-related neurodevelopmental disabilities (ARND); and alcohol-related developmental disabilities (ARDD).

### **HOW DOES ALCOHOL CAUSE THESE PROBLEMS?**

Alcohol in the mother's blood crosses the placenta freely and enters the embryo or fetus through the umbilical cord. The exact mechanism(s) by which alcohol damages the fetus and critical times of exposure are not known; however, exposure during the first trimester results in the structural defects (i.e., facial changes) characteristic of FAS, whereas the growth and CNS disturbances could occur from alcohol use during any time in pregnancy.

### **WHAT ARE THE EFFECTS OF PRENATAL ALCOHOL ON THE FETUS?**

The U.S. Public Health Service has indicated that there is no safe level of alcohol use during pregnancy. If a woman drinks while pregnant, she puts her developing fetus at risk for a wide spectrum of adverse effects including spontaneous abortion; growth retardation; physical, mental, and behavioral abnormalities; facial abnormalities; and CNS impairment, such as developmental delay, speech or language delay, lower IQ, and decreased head circumference. In the worst cases, prenatal exposure to alcohol may result in fetal death.

## **DOES DRINKING DURING PREGNANCY ALWAYS RESULT IN FAS?**

Not all women who drink heavily during pregnancy will have a child with FAS. Why some women are more susceptible than others is not entirely clear; however, by not drinking during pregnancy, women can ensure that their babies will not have FAS or any other alcohol-related outcomes.

## **WHAT IS A "DRINK"? WHAT IF I ONLY DRINK BEER OR WINE COOLERS?**

All drinks containing alcohol can hurt an unborn baby. A standard 12-ounce can of beer has the same amount of alcohol as a 4 ounce glass of wine or a 1-ounce shot of straight liquor. In addition, some alcoholic drinks, such as malt beverages, wine coolers, and mixed drinks often contain more alcohol than a 12-ounce can of beer.

## **HOW MUCH ALCOHOL IS REASONABLY ACCEPTABLE TO DRINK WITHOUT RUNNING THE RISK OF MY CHILD DEVELOPING FAS?**

There is no safe amount of alcohol that a woman can drink while pregnant. Any time a pregnant woman engages in regular drinking, she increases her chance of having a spontaneous abortion and puts her unborn child at risk for growth deficiencies, learning disabilities, and behavioral problems.

## **HOW DO I KNOW MY CHILD HAS BEEN AFFECTED BY MATERNAL ALCOHOL USE?**

FAS is the severe end of a spectrum of effects that can occur when a woman drinks during pregnancy (with fetal death being the most severe case). FAS is a disorder characterized by growth retardation, facial abnormalities, and central nervous system dysfunction. If a pregnant woman drinks alcohol but her child does not have the full symptoms of FAS, it is possible that her child may be born with ARND. Children with ARND do not have full FAS, but may demonstrate learning and behavioral problems caused by prenatal exposure to alcohol. If you think a child may have FAS or other alcohol-related effects, contact a doctor. Children with FAS or ARND may have the following characteristics or exhibit the following behaviors: small for gestational age or small in stature in relation to peers; facial abnormalities such as small eye openings; poor coordination; hyperactive behavior; learning disabilities; developmental disabilities (e.g., speech and language delays); mental retardation or low IQ; problems with daily living; poor reasoning and judgment skills; and sleep and sucking disturbances in infancy. In addition, people with FAS often experience problems as they get older such as mental health problems, disrupted school experiences, trouble with the law, unemployment, and inappropriate sexual behavior.

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### **IS FAS HEREDITARY OR IS THERE A HEREDITARY DISPOSITION TO GETTING IT?**

FAS is not hereditary. FAS can only occur if a woman drinks alcohol during her pregnancy. Currently, it is not known why some children are more likely to develop FAS than other children if their mothers drank during pregnancy.

### **CAN FAS BE TREATED? HOW?**

FAS is an irreversible, lifelong condition that affects every aspect of a child's life and the lives of his or her family members; however, FAS is the only birth defect that can be completely prevented. With early identification and diagnosis, a child with FAS can receive services that can help maximize his or her potential.

### **ARE THE CONSEQUENCES OF DRINKING DURING PREGNANCY INFLUENCED BY WHEN THE PREGNANT WOMAN CONSUMES ALCOHOL, I.E., WHICH TRIMESTER?**

The adverse effects of alcohol on an unborn fetus can occur in every trimester. When a mother drinks alcohol so does her fetus because alcohol crosses the placenta freely. Again, there is no "safe" dose of alcohol in pregnancy and there does not appear to be a "safe" period of pregnancy for drinking. In general, though, abnormal facial features, organs, bones, etc., occur as a result of drinking during the first trimester; and decreased fetal growth is associated with drinking during the third trimester. The brain, on the other hand, is developing throughout all trimesters, so it can be affected throughout pregnancy.

### **WHAT ARE THE EFFECTS OF ALCOHOL ON A FETUS DURING THE VERY FIRST WEEKS-- BEFORE A WOMAN WOULD KNOW THAT SHE WAS PREGNANT?**

The pattern and timing of prenatal alcohol use can greatly influence the impact of adverse effects on the fetus. Chronic drinking and binge drinking are recognized as the most dangerous patterns of drinking. The pattern of drinking will partly determine the effects of alcohol on a fetus during the first weeks of pregnancy. Many body parts and organs are developing in the embryonic stage which is weeks 3 to 8. It is known that during the first 4 weeks of pregnancy, when most women are not aware that they are pregnant, the heart, CNS, eyes, arms, and legs of the fetus are developing. Also, different developing organ systems may be more vulnerable to damage at different stages of development.

## **HOW MUCH ALCOHOL IS DANGEROUS? IS THERE ANYTHING I CAN DO NOW TO DECREASE THE CHANCES OF HAVING A CHILD WITH FAS?**

Any amount of alcohol consumed during pregnancy is potentially dangerous to an unborn baby. There is no cure for FAS; it is irreversible; however, if a pregnant woman is drinking during pregnancy, it is never too late for her to stop. The sooner a woman quits drinking, the better it will be for both her and her baby. If a woman is not able to quit drinking, she should contact her local social service agency or health plan for alcohol abuse treatment, if needed; if a woman is not yet pregnant, she should use an effective form of birth control until her drinking is under control. The easiest way to prevent FAS is to abstain from alcohol use during pregnancy. Mothers aren't the only ones who can help prevent FAS, though. Significant others, family members, schools, social organizations and communities alike can help prevent FAS through education and intervention.

## **WHAT MESSAGE DOES CDC HAVE FOR PREGNANT WOMEN OR WOMEN OF CHILDBEARING AGE?**

As a federal agency under the U.S. Department of Health and Human Services, CDC abides by and supports the U.S. Surgeon General's Advisory on Alcohol and Pregnancy that advises against drinking alcoholic beverages during pregnancy or when planning a pregnancy. This warning was first issued in 1981 and was later reissued in 1990 and 1995 by the U.S. Secretary of Health.

## **HOW COMMON IS FAS?**

The reported prevalence rates of FAS vary widely depending on the population studied and the intensity of case ascertainment. In the general population, estimates vary from 0.7 cases per 1,000 to 1.0 cases per 1,000 live births with higher rates (e.g., 3 per 1,000 live births) among American Indian and Alaska natives. Other neurodevelopmental effects of alcohol are believed to occur more frequently.

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