FAS Facts
Roughly one of every five women uses alcohol and/or other drugs. (Substance Abuse and the American Woman, Center on Addiction and Substance Abuse, Columbia University, June 5, 1996)

FAS is the leading known cause of mental retardation, surpassing both Spina Bifida and Down's Syndrome. (Journal of the American Medical Association, 1991)

Over three times as many women used alcohol during pregnancy than used illegal drugs. (National Institute on Drug Abuse, 1994)

Each year more than 5000 are born with FAS and nearly 50,000 babies are born with Fetal Alcohol Effects (FAE), a condition characterized by symptoms similar to but less severe than FAS. (Public Health Education Information Sheet, March of Dimes, 1992)

An average of just one to two drinks per day has been linked to serious Alcohol-Related Birth Defects (ARBDs). (Alcohol Problems in Women, 1984)

Study Findings Raise Hope for Potential FAS Intervention

A recent study in the Federation of American Societies for Experimental Biology Journal (FASEB) yields promising results in the field of FAS research. The article by Drs. Wilkemeyer, Charness, and colleagues, reports that the long-chain alcohol 1-octanol successfully blocks a mechanism leading to fetal alcohol syndrome (FAS). The finding is seemingly paradoxical because the short-chain alcohol Ethanol (beverage alcohol) actually causes FAS. However, the finding will help provide a strategy for pharmaceutical interventions to prevent alcohol-related birth defects.

According to Enoch Gordis, M.D., Director, National Institute on Alcohol Abuse and Alcoholism, “Alcohol researchers have been working for over 20 years to unravel the mechanisms of fetal alcohol damage so that interventions may be developed. The report of a compound that can block fetal alcohol damage in mouse whole embryos suggests that the fetus is amenable to treatment.”

In the study, the researchers cultured 23 mouse embryos with ethanol and 23 embryos with both ethanol and octanol. Eighteen control embryos were exposed to neither ethanol nor octanol. The results showed a dramatic difference between groups. The control embryos and embryos exposed to both ethanol and octanol were developmentally more advanced and exhibited less cell death than embryos cultured with ethanol alone. The results of the study could have a positive impact in the future, lowering the rates of FAS and preventing developmental disabilities in many individuals. As the leading preventable cause of mental retardation, FAS leads to a lifetime of high emotional and economic costs. The per child cost is estimated at $1.8 million in health care which does not include indirect costs such as lost productivity. The results of the study give hope for
Strategies for Parents and Caregivers of FAS and FAE children

Children with FAS/FAE benefit from structure, consistency, variety, brevity and persistence in their surrounding environment. Parents and caretakers should provide external structure to compensate for the child’s lack of internal structure. It is important to be consistent in response and routine so the child sees the world as predictable. It is also important to repeat explanations and directions often, in order to help them learn.

Many FAS children have learning disabilities because they have difficulty structuring work time, experience poor memory, and have a reduced attention span. Effective strategies include fostering independence in self-help and play and encouraging the use of positive self talk. Rules and routines need to be established and followed consistently.

- Patricia Tanner-Halverson, Ph.D.
National Organization on Fetal Alcohol Syndrome (NOFAS)

Maternal Substance Abuse and Child Development Project
1256 Briarcliff Rd., NE Suite 323W
Emory West Campus Atlanta, GA 30306

The Maternal Substance Abuse and Child Development Project is dedicated to the study and prevention of the effects of maternal substance abuse. Since 1978, the project has studied the development of children exposed to alcohol and other drugs prenatally and their caregivers and provided training for Prevention statewide. For additional information call (404) 712-9800.

- Developing treatments which utilize Octanol and its similar compounds to combat the negative effects of ethanol on the developing fetus.

"Our research indicates that many of the devastating effects of maternal alcohol abuse probably occur during the first 3-6 weeks of pregnancy. At this time, most women do not yet know they are pregnant," said Dr. Kathleen Sulik, a professor at University of North Carolina Medical School, Chapel Hill, and the director of the Fetal Toxicology Division, Bowles Center for Alcohol Studies. While the availability of FAS treatments may be approaching, it is important to remember that the key form of FAS prevention is abstinence. No amount of alcohol consumption during pregnancy is known to be safe.

The full article text and accompanying figures may be viewed at www.fasebj.org

Additional alcohol research information and publications are available at www.niaaa.nih.gov.