

Summary of effects of prenatal drug exposure (American Academy of Pediatrics, 2013)

	<u>Nicotine</u>	<u>Alcohol</u>	<u>Marijuana</u>	<u>Opiates</u>	<u>Cocaine</u>	<u>Methamphetamine</u>
Short-term effects/ birth outcome						
<i>Fetal growth</i>	Effect	Strong effect	No effect	Effect	Effect	Effect
<i>Anomalies</i>	No consensus	Strong effect	No effect	No effect	No effect	No effect
<i>Withdrawal</i>	No effect	No effect	No effect	Strong effect	No effect	Limited/no data
<i>Neurobehavior</i>	Effect	Effect	Effect	Effect	Effect	Effect
Long-term effects						
<i>Growth</i>	No consensus	Strong effect	No effect	No effect	No consensus	Limited/no data
<i>Behavior</i>	Effect	Strong effect	Effect	Effect	Effect	Limited/no data
<i>Cognition</i>	Effect	Strong effect	Effect	No consensus	Effect	Limited/no data
<i>Language</i>	Effect	Effect	No effect	Limited/no data	Effect	Limited/no data
<i>Achievement</i>	Effect	Strong effect	Effect	Limited/no data	No consensus	Limited/no data

Behnke, M., Smith, V. C., & Committee on Substance Abuse. (2013). Prenatal substance abuse: short-and long-term effects on the exposed fetus. *Pediatrics*, peds-2012.

Some examples of the effects of prenatal substance exposure*

Fetal growth

- Low birth weight; intrauterine growth restriction

Congenital anomalies (i.e. birth defects, congenital disorders, congenital malformations)

- Alcohol-related birth defects: heart, kidney, and bone problems; difficulty seeing and hearing; reduced immune function
- Fetal alcohol syndrome disorder: central nervous system abnormalities; facial abnormalities (narrow eye openings, smooth area between lip and nose, thin upper lip)

Withdrawal

- The only substance that consistently results in withdrawal symptoms is opiates, in the form of neonatal abstinence syndrome (common symptoms in infant: sweating, irritability, increased muscle tone and activity, feeding problems, seizures)

Neurobehavior

- Poor habituation, low levels of arousal, motor abnormalities, increased startles and tremors, irritability and lability of state, decreased behavioral and autonomic regulation, poor alertness and orientation

Growth (long-term)

- Children with FASD tend to be small for their age but effects of alcohol exposure on long-term growth are inconsistent
- Studies of growth effects are often complicated by multiple drug use, low socioeconomic status, and nutrition/diet

Behavior

- Impulsivity, attention problems, memory and perceptual problems, hyperactivity, negative and externalizing behaviors (oppositional defiant disorder symptoms, higher rates of delinquency, criminal behavior, substance abuse)

Cognition/ executive functioning

- Challenges with learning, memory, executive functioning, sustained attention, visual memory, analysis, and integration, learning; lower IQ scores, increased risk of intellectual disability

Language

- Challenges with language development and reading

Achievement

- Challenges with arithmetic, spelling, reading, math; increased risk of learning disabilities

*Each substance has unique short and long-term effects. See substance fact sheets for more specific information.