Effects of Different Substances\textsuperscript{1-23}

Alcohol produces by far the most serious neurobehavioral effects on the fetus of any of these different substances.\textsuperscript{24} Using multiple substances during pregnancy further increases the number of health risks that may impact the fetus.\textsuperscript{25} We have the proof that prenatal alcohol exposure is the leading preventable cause of birth defects in the United States.\textsuperscript{26} We have the proof that FASD is 100\% preventable.\textsuperscript{27}

<table>
<thead>
<tr>
<th>Effect on Child</th>
<th>Alcohol</th>
<th>Opioids</th>
<th>Meth</th>
<th>Cocaine</th>
<th>Marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Deficiency</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Behavioral Impairments</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cognitive Impairments</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Motor Deficits</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental Delays</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Facial Anomalies</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Effects</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Alcohol causes more harm than many illegal substances

Just because a drug or substance is legal, such as alcohol, does not mean it is safe to use during pregnancy. The Institute of Medicine states “Of all the substances of abuse including cocaine, heroin, and marijuana, alcohol produces by far the most serious neurobehavioral effects in the fetus resulting in life-long, permanent disorders.”\textsuperscript{24}

Alcohol is a teratogen

A teratogen is an agent that causes birth defects; examples are mercury, lead, and alcohol. More than forty years of research has proven that prenatal alcohol exposure impedes growth and disrupts normal development. Science definitively recognizes that when a pregnant person drinks alcohol, the alcohol crosses the placenta into the blood supply of the developing fetus.\textsuperscript{28}

A fetus can’t process alcohol

Developing fetuses have a very limited ability to process alcohol with their liver, which is not fully formed until after birth. The alcohol a pregnant person consumes stays in the baby’s bloodstream even after the pregnant person’s blood alcohol concentration (BAC) is 0.0\%.\textsuperscript{28} According to Dr. Yasuko Yamamura, MD, OB/GYN, “The fetal liver is actually quite immature and doesn’t have the same enzymes to metabolize alcohol, [so] when the alcohol passes across the placenta, the alcohol passes essentially unmetabolized into the amniotic fluid. The fetus actually drinks that amniotic fluid, perpetuating the exposure to alcohol.”\textsuperscript{29}

There is no safe amount or type of alcohol to consume during pregnancy

Any amount of alcohol, even if it’s just one glass of wine, passes from the mother to the embryo or fetus. Overall, the scientific community, including the U.S. Surgeon General\textsuperscript{30} and the Centers for Disease Control and Prevention\textsuperscript{31}, continues to advise that there is no known safe amount of alcohol to drink during pregnancy. There is also no safe time while pregnant to drink\textsuperscript{32} and it makes no difference if the alcohol is wine, beer, liquor, or distilled spirits (vodka, rum, tequila, whiskey, etc.).\textsuperscript{33}
FASD Impacts Us All

As many as 1 in 20 children in the United States have an FASD.³⁴

In Minnesota, 40% of pregnancies are unplanned.³⁵ The developing embryo can be impacted before pregnancy status is confirmed.

Minnesota is ranked number 6 for the highest binge drinking rates in the U.S.³⁶

1 in 9 pregnancies are exposed to alcohol.³⁷

Sources:
29. Dr Yaszko Yamamura. “OB/GYN Speak the Truth.” https://www.youtube.com/watch?v=_5-TXsYw3x8