



Smoking: A Baby's View  
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Did you know that although tobacco smoke contains up to 4,000 chemicals, the most dangerous exposures for the baby of a pregnant woman are Nicotine, Polycyclic Aromatic Hydrocarbons (PAHs) and Carbon Monoxide. According to the American Lung Association, the mother's bloodstream delivers these toxic chemicals to the developing baby quite efficiently.

Nicotine in a smoking mother constricts her blood vessels, reduces the amount of blood flowing through the placenta (which keeps the baby safe), and can cause spasms of the umbilical cords blood vessels which cause sudden decrease in blood flow to the baby. Decrease blood flow means the baby receives less oxygen and nutrition. Additionally, once the nicotine enters the baby's blood stream it narrows the baby's blood vessels reducing the amount of blood that reaches the child's developing arms and legs. This starves the limbs of much needed oxygen and blood during a period when they should be developing at a rapid rate.

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the burning of tobacco. Studies have found that mice that were fed high levels of just one PAH during pregnancy had difficulty reproducing and so did their offspring. These offspring also had higher rates of birth defects and lower body weights.

When a pregnant woman smokes she consumes carbon monoxide, and so does her unborn baby. Carbon monoxide, in adequate amounts, can suffocate an adult and contributes to thousands of accidental deaths each year. In the womb it reduces the oxygen-carrying capacity of red blood cells and, in sufficient concentrations, is associated with chronic decreased fetal blood oxygen.

The American Public Health Association points out that a smoker's developing baby receives less nourishment than that of a non-smoker. This is attributable to not only the effect of nicotine cutting down on the blood supply to the baby, but also because smoking decreases a mother's appetite. An unnaturally decreased appetite reduces the amount of nutrition, particularly protein, to the baby. During pregnancy it is recommended that an expectant mother consumer 300 additional calories a day to support a healthy baby.

So what does reduced oxygen, reduced nutrition, and chemical exposure do to a developing baby? During 2003 in Brevard County 30% of the babies that die before their first birthday will have mothers who smoked during pregnancy. Their deaths will be attributable to the increased rates of miscarriage/stillbirth, Sudden Infant Death Syndrome (SIDS), and complications related to prematurity. This is because mothers who smoke are much more likely to give birth to a "preemie," to have a miscarriage or to deliver a stillborn, and are more likely to develop pre-eclampsia. Babies born to smoking mothers are at increased risk for sudden infant death syndrome (SIDS) and a variety of other health problems. However, the main danger is low birth weight. According to the Centers for Disease Control and Prevention, 12 percent of babies born to smokers weigh less than five pounds, eight ounces – the cut-off point for low birth weight – compared to 7.2 percent for nonsmokers.

Shocked now? So what can be done? The good news is that quitting smoking, even mid-pregnancy, reduces some of the harm, including the risk of preterm delivery. In a large Swedish study published in the American Journal of Epidemiology that examined over 15,000 births, babies born to smokers were – as expected – shorter, weighed less, and had smaller heads on average than the children of nonsmokers. But babies born to women who stopped smoking by the 32<sup>nd</sup> week of pregnancy, though still shorter, had normal weight and head size.

Although quitting can be crucial to a baby's health it's easier said than done. Stop-smoking aids such as nicotine gum or patches have not been proven safe to use during pregnancy. Studies have shown that pregnant women experience much higher success rates when they seek out a group or program to help them stop smoking.

**PLEASE** speak with your provider about quitting smoking or call the Washington State Quit Line at 1-800-QUIT NOW and speak with a Quit Coach