How the Street You Live On May Harm Your Health

• By Nancie George

Traffic-related pollution and noise can cause kidney or heart disease.



Living by busy roadways increases your exposure to air pollution, excessive noise, and stress, which can all hurt your health.

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- An estimated one-fifth of Americans live near busy roadways.
- **Traffic-related pollution** may increase your risk for some health conditions like asthma and heart disease.
- Lifestyle changes like cutting out tobacco and maintaining a healthy weight may help reduce your risk for these health issues.

Roughly 60 million Americans live within one-third of a mile from a busy roadway, according to a 2013 study. Pollution levels are higher near major roadways, and traffic-related pollution, noise, and stress can all negatively impact your health. Researchers have long linked living by high-volume roadways with increased risk for respiratory

conditions such as asthma. Recent data, however, shows there are other health risks linked to living by busy roadways. Among them:

1. High blood pressure. A 2014 study published in the Journal of the American Heart Association found an association between living close to a major highway and high blood pressure, or hypertension.

The study looked at more than 5,000 postmenopausal women and found that those who lived within 109 yards of a busy roadway had a 22 percent greater risk of high blood pressure than people living at least half a mile away. Researchers point out that the study links high blood pressure with living near major roadways, but doesn't prove that living near a highly trafficked area *causes* high blood pressure. Reasons for the blood pressure-roadway link may be due to greater exposure to higher levels of traffic-related pollution or noise, researchers say.

About one in three American adults has hypertension. It's the leading cause of heart attack, heart failure, stroke, and kidney disease, so it's important to take your risk seriously. You can improve your blood pressure levels by eating a low-salt diet, regularly exercising, cutting out tobacco, lowering your alcohol intake, and by taking certain medications like beta-blockers.

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2. Death risk in heart attack survivors. According to a 2012 study published in the journal Circulation, heart attack survivors living less than 328 feet from major U.S. interstates and state roads had a 27 percent higher death risk over 10 years compared to people living at least 3,280 feet away from the roadway. The reason for this may be due to a combination of exposure to air pollution, excessive noise, or stress from living nearby a busy roadway, researchers say.

Heart disease is the leading killer of American men and women. Maybe you can't decide where you live, but you can control other heart disease risk factors. Smoking is a significant heart disease risk factor that you can control. You can also prevent a heart attack by first knowing your cholesterol levels, watching your weight, reducing your stress levels, and getting more sleep.

3. Lowered kidney function. Living close to a major roadway with heavy traffic may harm your kidneys and affect your cardiovascular disease risk, according to a 2013 study published in the Journal of Epidemiology and Community Health. The study looked at more than 1,100 adults who were admitted to the hospital after experiencing a stroke. About half of the patients lived within three-fifths of a mile, and the remaining patients lived up to six miles away.

Participants who lived closest to a busy roadway had the lowest glomerular filtration rate — which shows how well kidneys are functioning — indicating poor kidney function. The researchers say that traffic-related pollution can cause arterial plaque build-up, and kidneys can easily be affected by arterial plaque build-up. Poor kidney health is a cardiovascular disease risk factor.

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Want to improve your kidney health? The National Kidney Disease Educational Program recommends keeping your blood pressure rate steady. Other tips for boosting kidney health include quitting smoking, keeping cholesterol levels in target range, limiting your salt and alcohol intake, maintaining a healthy weight, and eating hearthealthy foods like fresh fruits and vegetables, and low-fat dairy foods.

4. Greater diabetes risk in kids. A 2013 study published in the journal Diabetologia looked at the relationship between traffic-related air pollution exposure and insulin resistance, a precursor to Type 2 diabetes, in nearly 400 children over 10 years. The study found that children exposed to air pollution during the first 10 years of their lives were at increased risk of developing insulin resistance that ranged from 8.6 percent to 22.5 percent, depending on the quantity and type of pollution. Children who lived closer to a busy road had an increased insulin resistance by seven percent per 500 meters (or about 1640 feet).

"Insulin resistance levels tended to increase with increasing air pollution exposure, and this observation remained robust after adjustment for several confounding factors, including socioeconomic status, BMI and passive smoking," study author Joachim Heinrich says in a press release.

Lifestyle changes like cutting out sugary drinks, maintaining a healthy weight, reducing TV time, and upping fruit and veggie intake, can help lower your Type 2 diabetes risk.

5. Lower IQ in kids. A 2007 Harvard School of Public Health study analyzed the relationship between traffic pollutants and IQ scores of 202 Boston-area kids with an average age of 9.7 years. Researchers found that kids living and going to school in areas with higher amounts of traffic pollutants scored an average of 3.7 points lower on IQ tests than kids living in less polluted areas.

6. Increased risk of sudden cardiac death in women. A new study published in the journal Circulation found that women living near major roadways are at increased risk for sudden cardiac death. The study looked at more than 100,000 American women with an average age of 60 years.

Researchers found that in the 523 cases of sudden cardiac death, women who lived within 164 feet of a major roadway had a 38 percent increased sudden cardiac death risk than women who lived 0.3 miles from a major roadway. For every 328 feet closer to a major roadway there was a six percent increase in risk of sudden cardiac death.

"Our next step is to try to determine what specific exposures, such as air pollution, are driving the association between heart disease and major roadway proximity," Jaime E. Hart, ScD, study lead author and an instructor in medicine at Brigham and Women's Hospital and Harvard Medical School in Boston, Massachusetts, says in a press release.

Women can reduce their risk for sudden cardiac death by maintaining a healthy lifestyle. Women who stuck to a healthy lifestyle — including abstaining from smoking, having a BMI less than 25, exercising at least 30 minutes daily, and eating a Mediterranean-style diet — had a 92 percent decrease in sudden cardiac death, according to a 2011 study published in the Journal of the American Medical Association.

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