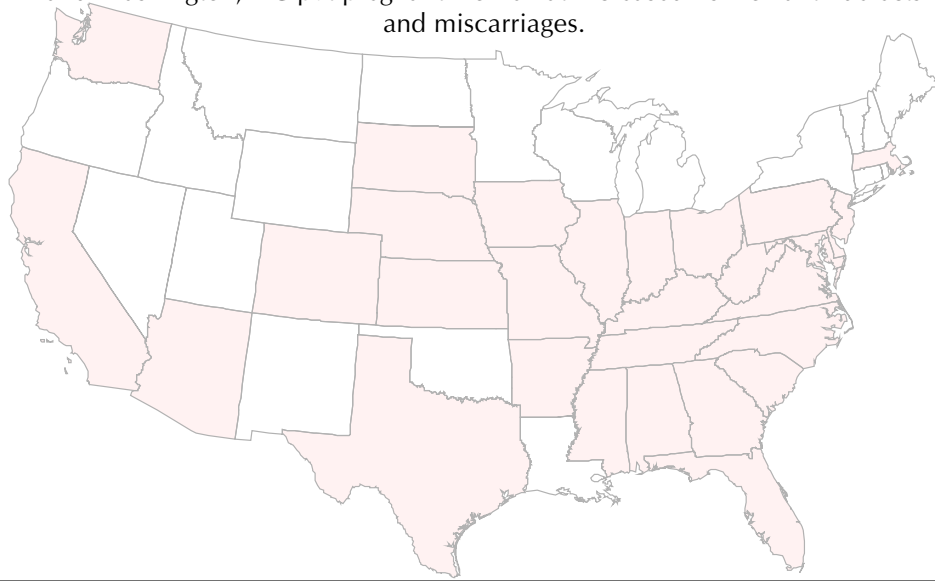


Considering all the THM studies available, water from towns in 29 states and Washington, DC put pregnant women at increased risk for birth defects and miscarriages.



Although studies show risks at much lower levels, this study (Consider the Source) focuses on only the very highest exposures (80 ppb THMs and higher)

80 ppb or greater

137,000 pregnancies yearly are exposed at this level. Studies link these exposures to increased risk for:

- central nervous system defects ¹
- neural tube defects ^{1,5}
- birth defects identified at birth ¹
- major cardiac birth defects ¹
- first trimester miscarriage ³
- term low birth weight ⁴
- small body length ⁶
- small head circumference ⁶

In addition to those cities listed previously, the following cities expose more than 500 pregnant women each year to THMs exceeding 80 ppb for an entire trimester:

- | | |
|---------------------------|----------------------------|
| Akron, OH | Lancaster, PA |
| Amarillo, TX | Laredo, TX |
| Aurora, IL | Monmouth County, NJ |
| Boston, MA | Mesquite, TX |
| Davenport, IA | New Bedford, MA |
| Durham, NC | New Milford, NJ |
| East St. Louis, IL | Norristown, PA |
| Evansville, IN | Penn Hills, PA |
| Fayetteville, NC | Philadelphia, PA |
| Garland, TX | Plano, TX |
| Kankakee, IL | Richardson, TX |
| Kansas City, KS | Texarkana, TX |
| Kenmore, WA | Trenton, NJ |
| Knoxville, TN | |

Chart 1: High levels of chlorination byproducts in tap water may place more than 700,000 pregnancies at increased risk for birth defects and miscarriages.

100 ppb or greater

45,000 pregnancies yearly are exposed at this level. Studies link these exposures to increased risk for:

- oral cleft defects ¹
- stunted growth of the fetus ¹
- stillbirth ²
- birth defects identified at birth ¹
- central nervous system defects ¹
- neural tube defects ^{1,5}
- major cardiac birth defects ¹
- first trimester miscarriage ³
- term low birth weight ⁴
- small body length ⁶
- small head circumference ⁶

The following cities expose more than 500 pregnant women each year to THMs exceeding 100 ppb for an entire trimester:

- | | |
|--|-------------------------------------|
| Charleston, SC | Omaha, NE |
| Charleston, WV | Passaic County, NJ |
| Jackson, MS | Pittsburgh & suburbs, PA |
| Newark, NJ | San Francisco, CA |
| Washington, DC | |
| Maryland Suburbs of Washington, DC (WSSC) | |

45,490 pregnant women each year drink water with at least 100 ppb for a trimester

137,715 pregnant women each year drink water with at least 80 ppb for a trimester

¹Bove, F. J., M. C. Fulcomer, J. B. Klotz, J. Esmart, E. M. Dufficy, and J. E. Savrin, 1995: Public drinking water contamination and birth outcomes. *Am J Epidemiol*, **141**, 850-62.

²Dodds, L., W. King, C. Woolcott, and J. Pole, 1999: Trihalomethanes in public water supplies and adverse birth outcomes. *Epidemiology*, **10**, 233-7.

³Waller, K., S. H. Swan, G. DeLorenze, and B. Hopkins, 1998: Trihalomethanes in drinking water and spontaneous abortion. *Epidemiology*, **9**, 134-40.

⁴Gallagher, M. D., J. R. Nuckols, L. Stallones, and D. A. Savitz, 1998: Exposure to trihalomethanes and adverse pregnancy outcomes. *Epidemiology*, **9**, 484-489.

⁵Klotz, J. B. and L. A. Pynch, 1999: Neural tube defects and drinking water disinfection by-products. *Epidemiology*, **10**, 383-90.

⁶Kanitz, S., Y. Franco, V. Patrone, M. Caltabellotta, E. Raffo, C. Riggi, D. Timitilli, and G. Ravera, 1996: Association between drinking water disinfection and somatic parameters at birth. *Environ Health Perspect*, **104**, 516-20.

Source: Environmental Working Group analysis of U.S. EPA and state agency tap water contaminant testing results databases.

Chart 1 (continued): High levels of chlorination byproducts in tap water may place more than 700,000 pregnancies at increased risk for birth defects and miscarriages.

While this study and EPA have focused on health effects at 80 ppb THMs and greater, epidemiological studies have found increased incidence of birth defects in women drinking water containing only 40 ppb THMs. Hundreds of thousands of pregnant women each year drink tap water with THM levels shown to pose increased risks for birth defects.

75 ppb or greater

187,000 pregnancies yearly are exposed at this level. Studies link these exposures to increased risk for:

- first trimester miscarriage ³
- term low birth weight ⁴
- neural tube defects ⁵
- small body length ⁶
- small head circumference ⁶

In addition to those cities listed previously, the following cities expose more than 500 pregnant women each year to THMs exceeding 75 ppb for an entire trimester:

- | | |
|------------------------|--------------------|
| Brockton, MA | New Kensington, PA |
| Columbus, OH | Portsmouth, VA |
| Corpus Christi, TX | Seattle, WA |
| Glendale, AZ | Springfield, IL |
| Howard County, MD | Waco, TX |
| Jersey City, NJ | Warren, OH |
| Lowell, MA | |
| Lower Bucks County, PA | |

60 ppb or greater

350,000 pregnancies yearly are exposed at this level. Studies link these exposures to increased risk for:

- term low birth weight ⁴
- neural tube defects ⁵
- small body length ⁶
- small head circumference ⁶

In addition to those cities listed previously, the following cities expose more than 1,000 pregnant women each year to THMs exceeding 60 ppb for an entire trimester:

- | | |
|-------------------|---------------------|
| Baltimore, MD | Occoquan, VA |
| Bellevue, WA | Pinellas County, FL |
| Bryn Mawr, PA | San Diego, CA |
| Columbia, SC | Salem - Beverly, MA |
| Dallas, TX | Sioux Falls, SD |
| East Bay Area, CA | St. Petersburg, FL |
| La Mesa, CA | Tampa, FL |
| Lexington, KY | Toledo, OH |
| Little Rock, AR | Topeka, KS |
| Norfolk, VA | |
| San Bernadino, CA | |

40 ppb or greater

712,000 pregnancies yearly are exposed at this level. Studies link these exposures to increased risk for:

- neural tube defects ⁵
- small body length ⁶
- small head circumference ⁶

In addition to those cities listed previously, the following cities expose more than 2,000 pregnant women each year to THMs exceeding 40 ppb for an entire trimester:

- | | |
|--------------------------|---------------------|
| Arlington, TX | Louisville, KY |
| Aurora, CO | Mesa, AZ |
| Birmingham, AL | Newport, DE |
| Cocoa, FL | Phoenix, AZ |
| Columbia, GA | Raleigh, NC |
| Dekalb County, GA | Richmond, VA |
| Denver, CO | Springfield, MA |
| Ft Lauderdale, FL | St. Louis, MO |
| Houston, TX | Tempe, AZ |
| Indianapolis, IN | Wanaque Boro, NJ |
| Long Beach, CA | Winston - Salem, NC |
| Los Angeles, CA | Worcester, MA |
| National City-Bonita, CA | |

