

# Hoosick Falls and Town of Hoosick

Questions and Answers  
about

# PFOA Blood Testing Program



June 2016

## **1. Should you expect to find PFOA in your blood?**

Yes. Studies show that human exposure to perfluorooctanoic acid (PFOA) is widespread and that nearly all people in the United States have PFOA in their blood. People can be exposed to PFOA through air, water or soil contaminated from industrial sources, and from PFOA-containing consumer products. For the Hoosick Falls area, we expect blood levels of PFOA to be higher than the U.S. average.

## **2. How high will PFOA levels be in blood?**

When PFOA is present in drinking water, PFOA levels in blood are expected to be much higher than levels in drinking water.

## **3. Will the PFOA blood levels ever go down?**

Yes. Studies in other communities showed that levels of PFOA in blood declined after filtration systems were installed on their public and private drinking water sources. However, PFOA can be measured in blood for years after exposure. PFOA levels decline in blood naturally by about half every 2-4 years, assuming there is no additional exposure. This is known as a half life. Your health care provider and the resources listed in #9 can discuss this with you further if you have questions.

## **4. Can your blood level tell you if you are likely to have health problems?**

Knowing your PFOA blood level cannot tell you whether you have or will have a health effect related to the PFOA levels in your body.

## **5. What do the studies show about health effects and PFOA exposure?**

Some human health studies have found associations between PFOA exposure and health effects and others have not. In addition, the studies that found associations were not able to determine with certainty if the health effects were caused by PFOA or some other factors. The New York State Health Department is conducting an investigation to see if there are unusual elevations of cancer among Village residents. The investigation is looking at total cancers and specific types of cancer diagnosed from 1995 through 2013 (latest available data), using data from the New York State Department of Health Cancer Registry, which receives reports on all cases of cancer occurring in New York State.

## **6. Do some people tend to have more PFOA in their blood than others?**

Yes. Older people tend to have higher levels because the chemical builds up in the body over time. Please go to [www.health.ny.gov/hoosick](http://www.health.ny.gov/hoosick) for more information.

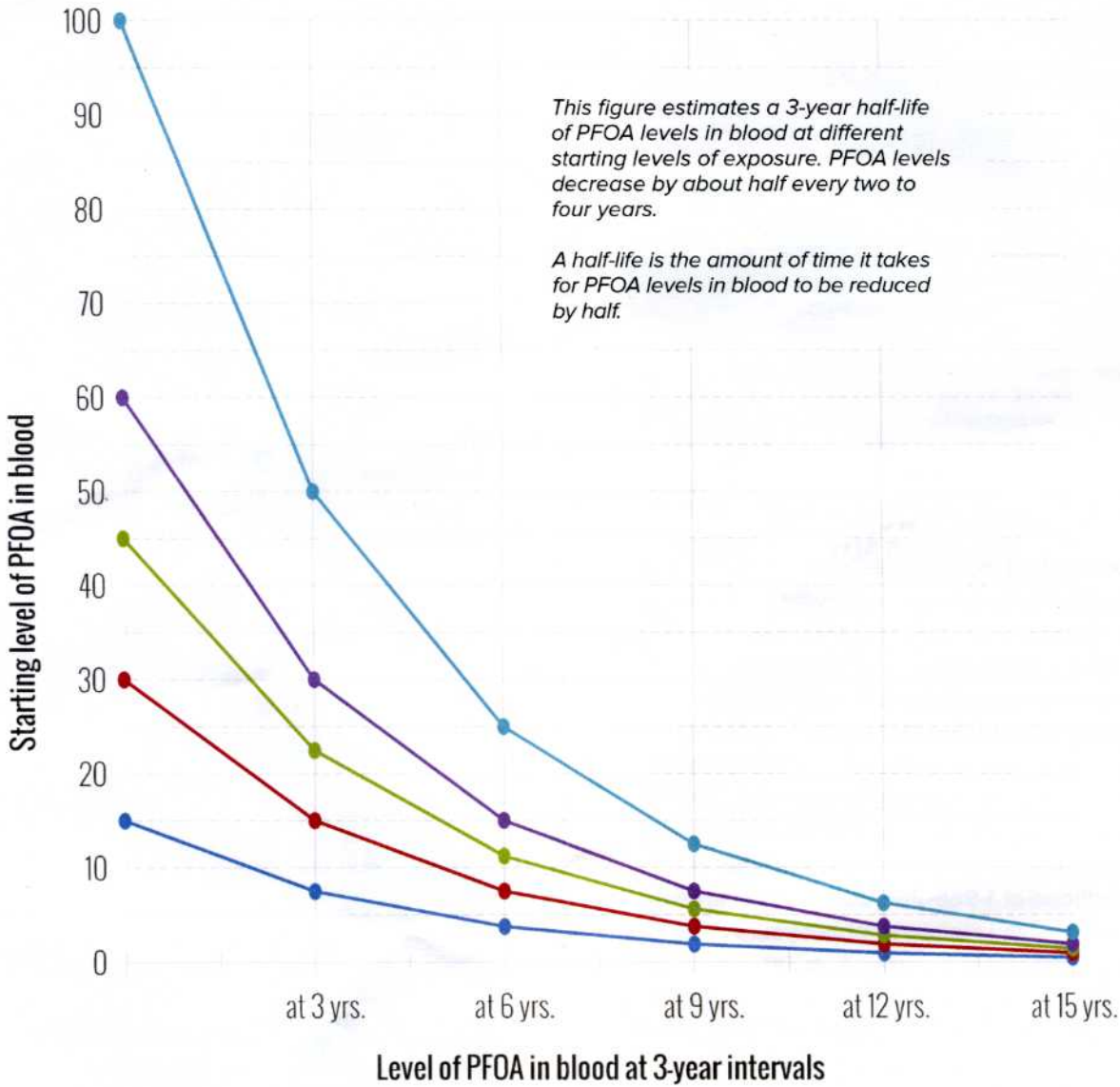
## **7. How will you know how your level compares to others?**

You will be able to compare your PFOA results to national data from the U.S. Centers for Disease Control and Prevention (CDC) and also to results for PFOA biomonitoring projects conducted in other communities in the U.S. Some examples are provided in the chart on the other side of this page.

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# How Long it Might Take for PFOA Blood Levels to Decline

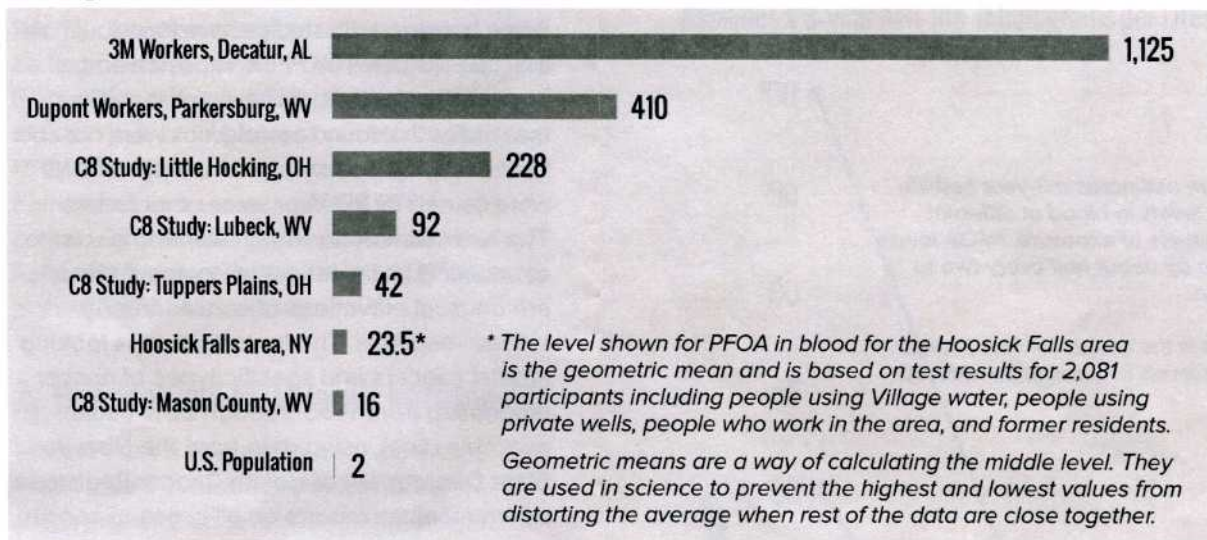
Assumes a 3-year half-life (Micrograms per Liter)



Bartell SM, Calafat AM, Lyu C, et al. 2010. Rate of decline in serum PFOA concentrations after granular activated carbon filtration at two public water systems in Ohio and West Virginia. *Environ Health Perspect.* 118(2):222-8



## Average PFOA Levels in Blood (Micrograms per Liter)



### 8. Were there other biomonitoring studies of PFOA exposure?

Some of the information we have in the above chart comes from people who were exposed to PFOA on the job, such as workers for 3M and Dupont. These workers usually have higher blood levels of PFOA and PFCs than the general population (PFCs are the group of chemicals to which PFOA belongs).

A large study (called the "C8 Study") of 70,000 people was done in a number of water districts of the Ohio River Valley where the drinking water was contaminated and people were exposed to PFOA. Results are shown for Little Hocking, Lubeck Public Service District, Tupper Plains, and Mason County. The testing in this large group found the average PFOA levels in blood were much higher when compared to the national average, but lower than what was found in workers who use PFCs in their job.

### 9. How can you find out more?

You can find more details and links to related studies at [www.health.ny.gov/hoosick](http://www.health.ny.gov/hoosick). If you have other questions about the biomonitoring program, contact the New York State Health Department by calling **518-402-7950** or emailing [beoe@health.ny.gov](mailto:beoe@health.ny.gov)

In addition, physicians with environmental exposure expertise from the Mount Sinai Hospital in New York City are available by telephone at **1-866-265-6201** to help answer questions you may have about your PFOA blood test result.



**INFORMATION SHEET**

**June 2, 2016**

**PFOA Biomonitoring Group-Level Results**

The Department of Health (DOH) offered blood testing for PFOA to people from the Hoosick Falls area beginning in February 2016. This information sheet shows group results available to date so people can see how their levels compare with those of other participants, while keeping individual results confidential.

As studies have shown, when PFOA is present in drinking water, PFOA levels in blood are expected to be higher than levels in the general U.S. population. The blood testing result provides important information about exposure to PFOA and allows for comparisons to people living elsewhere. Because scientists and public health experts are still learning about PFOA and human health, the blood testing result does not indicate if a person’s current illness is due to PFOA, or if a person will experience illness in the future due to PFOA. The result only provides exposure information.

This information sheet shows combined results for 2,081 Hoosick Falls area participants. This group combines people using Village water, people using private wells, people who work in the area, and former residents. PFOA levels in this group ranged from non-detectable to greater than 200 micrograms per liter (µg/L). Table 1 shows two types of “middle” levels by gender and age groups. It shows the geometric mean and the 50<sup>th</sup> percentile. Geometric means are a way of calculating the middle level. They are used in science to prevent the highest and lowest values from distorting the average when the rest of the data are close together. The 50<sup>th</sup> percentile is the middle result among all the individual results: half of the people had levels higher and half had levels lower than the 50<sup>th</sup> percentile. The table shows that the geometric mean blood PFOA level is 23.5 µg/L and the 50<sup>th</sup> percentile blood PFOA level is 28.3 µg/L for the total of 2,081 participants. As in other populations, middle levels are higher in males than females, and higher in people who are older.

Information about PFOA levels in other groups with PFOA in drinking water, people who work with PFOA, and the general U.S. population is provided on page 2. Additional group level results are available on the DOH website, <http://www.health.ny.gov/hoosick/>.

<b>TABLE 1</b>			
<b>PFOA blood test results by gender and age group:</b>			
<b>Hoosick Falls area participants</b>			
<b>Participants tested February – April, 2016</b>			
	Number of participants	PFOA level in µg/L	
		Geometric mean	50 <sup>th</sup> percentile
Total	2081	23.5	28.3
<b>By gender</b>			
Females	1146	21.3	26.7
Males	935	26.6	30.7
<b>By age group</b>			
0-17	353	16.3	19.8
18-39	458	18.7	22.6
40-59	700	25.7	32.8
60 and older	570	31.7	43.4



## PFOA LEVELS FROM OTHER STUDIES

Table 2 shows information for comparing PFOA levels to other groups: other communities with PFOA in drinking water, people who worked with PFOA and the general U.S. population.

- Comparing PFOA levels in Table 1 and Table 2 shows that the middle PFOA level for Hoosick Falls area participants (28.3 µg/L) are within the range of levels shown for communities where there was contamination of drinking water with PFOA.
- The middle levels shown for all Hoosick Falls area participants combined (Table 1) are higher than the middle and 95th percentile levels in the general U.S. population.

Table 2 PFOA Levels in Blood from Other Studies: Other communities with PFOA contamination in drinking water, people who worked with PFOA, and general U.S. population		
PFOA RESULTS FOR COMPARISON	Results in µg/L	
<b>Other communities with PFOA in drinking water:</b>	<b>Average level</b>	
Little Hocking, Ohio	228	N.A.
Lubeck, West Virginia	92	N.A.
Tuppers Plains, Ohio	42	N.A.
Mason County, West Virginia	16	N.A.
<b>People who worked with PFOA:</b>	<b>Average level</b>	
3M workers, Decatur, Alabama	1125	N.A.
DuPont workers, Parkersburg, West Virginia	410	N.A.
<b>General U.S. population:</b>	<b>Middle level (50<sup>th</sup> percentile)</b>	<b>High level (95<sup>th</sup> percentile)</b>
U.S. population age 12 and up	2.08	5.68
Males only	2.38	5.62
Females only	1.78	5.68
Young people age 12-19	1.74	3.59

**NOTES FOR TABLE 2:**

**µg/L = micrograms per liter:** A microgram per liter equals one part per billion, about one drop of liquid in an Olympic-size swimming pool.

**Middle level (50<sup>th</sup> percentile):** Half the people had a result below and half had a result above this level.

**High level (95<sup>th</sup> percentile):** 95 of every 100 people had results below this level.

**Average level:** The average is usually very similar to the middle level. In the published community studies, the average level is used.

**N.A.:** These levels are not available in the published studies about these communities.

**References:**

1. General U.S. population: National Health and Nutrition Examination Survey (NHANES), National Report on Human Exposure to Environmental Chemicals, U.S. Centers for Disease Control and Prevention (CDC), 2011-12.218.
2. Ohio/West Virginia communities: Paustenbach DJ, Panko JM, Scott PK et al (2007). A methodology for estimating human exposure to perfluorooctanoic acid (PFOA): a retrospective exposure assessment of a community (1951-2003). J Toxicol Environ Health 70:28-57.
3. Workers: Olsen GW (2015) "PFAS biomonitoring in higher exposed populations," in DeWitt JC (ed.) Toxicological effects of perfluoroalkyl and polyfluoroalkyl substances. Humana Press, Springer.

**FOR MORE INFORMATION:** NYS DOH, Center for Environmental Health, Bureau of Environmental and Occupational Epidemiology, Corning Tower, Albany NY 12237 518-402-7950 or BEOE@health.ny.gov