

INFORMATION SHEET

June 20, 2016

PFOA biomonitoring group-level results: early summary of preliminary findings for Petersburg area participants

The Department of Health (DOH) offered blood testing for PFOA to people from the Petersburg area beginning in April 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 55 Petersburg area participants. More people from Petersburg are scheduled for blood testing in the near future so these early results are considered preliminary. The 55 people tested so far include people using public 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 ($\mu\text{g/L}$). For a group of 55 participants, it is not possible to show more detailed results for subgroups at this time, by age group for example, because there are so few people in each age group.

Table 1 shows two types of "middle" levels by gender. It shows the geometric mean and the 50th 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 50th percentile is the middle result among all the individual results: half of the people had levels higher and half had levels lower than the 50th percentile. The table shows that the geometric mean blood PFOA level is 11.7 $\mu\text{g/L}$ and the 50th percentile blood PFOA level is 10.7 $\mu\text{g/L}$ for the total of 55 participants. As in other populations, middle levels are higher in males than females.

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 information about drinking water, PFOA, and blood testing is available on the DOH website www.health.ny.gov/DrinkingWaterResponse.

TABLE 1 PFOA blood test results by gender: PRELIMINARY RESULTS for Petersburg area participants Participants tested April, 2016			
	Number of participants	PFOA level in $\mu\text{g/L}$	
		Geometric mean	50 th percentile
Total	55	11.7	10.7
By gender			
Females	29	8.4	5.3
Males	26	17.0	15.0

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 from the early blood test results for Petersburg area participants (10.7 µg/L) is lower than the levels shown for some other communities where there was contamination of drinking water with PFOA.
- The middle levels shown from the early blood test results for Petersburg area participants (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	
Other communities with PFOA in drinking water:	Average level	
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.
People who worked with PFOA:	Average level	
3M workers, Decatur, Alabama	112	N.A.
DuPont workers, Parkersburg, West Virginia	410	N.A.
General U.S. population:	Middle level (50th percentile)	High level (95th percentile)
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 (50th percentile): Half the people had a result below and half had a result above this level.

High level (95th 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 (19512003). 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.