NSW Health

PFAS Blood Testing

Fact sheet

> This fact sheet is written to assist Blue Mountains residents, workers and healthcare professionals in their decisions around blood testing.

Key Points

- PFAS (per or polyfluoroalkyl substances including PFOA, PFOS, and PFHxS) can persist in the environment and in the human body for a long time, which has led to community concern about potential health effects.
- On the principle of precaution, NSW Health recommends minimising exposure where possible.
- Based on the large amount of research already undertaken, any health effects from environmental exposures to PFAS appear to be small.
- For most Australians, exposure to PFAS is low and has been decreasing over time.
- Blood testing for PFAS is not routinely recommended because it does not predict illness or guide treatment.
- There are currently no approved medical treatments to remove PFAS from the body in Australia.

What is a PFAS blood test?

A PFAS blood test measures the amount of certain PFAS chemicals in your blood at the time the sample is taken.

PFAS blood tests:

- do not diagnose disease
- do not reliably predict future health problems
- cannot tell when exposure to PFAS chemicals occurred
- cannot provide a reliable indication of previous or future blood levels
- cannot tell whether PFAS is the cause of any current symptoms or illness.

Almost all Australians are expected to have some PFAS detected in their blood. A range of levels would be expected in all communities due to exposures from a variety of sources.

The same blood level in two different people may not mean the same level of exposure to sources of PFAS, because the time people take to clear PFAS from their bodies may be different.

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Should I get a PFAS blood test?

Before deciding to have a PFAS blood test, it is important to ask:

'What will I do with the result?'

Because there are no health-based guidelines for blood levels and no specific treatments, PFAS blood test results are not used to change recommended medical care in Australia. In the United States, the Centers for Disease Control and Prevention, and the Agency for Toxic Substances and Disease Registry also advise that clinicians should not use PFAS blood test results to guide medical care or screening.

The NSW Health Expert Advisory Panel has recently carefully considered the evidence available. To further understand the evidence, please visit the NSW Health website.

If you have concerns about conditions such as high cholesterol or other health issues, it is important to follow your doctor's advice about monitoring and management, as these are already part of routine care and would not be changed by knowing the level of PFAS in your blood.

If you are considering testing, it is important to discuss this with your doctor first and agree on:

- why you want the test
- how the result would be interpreted
- what actions (if any) would follow.

What are the possible benefits of blood testing?

For some people, PFAS blood testing may offer limited personal benefits, such as providing reassurance if levels are similar or below those of the general population.

Blood test results do not change recommended medical care.

What are the limitations and possible harms?

For some people, PFAS blood testing may:

- create anxiety or distress - particularly if results are higher than those of the general population – and increase uncertainty and potential for concerns - because there is no clear link between blood PFAS levels and individual health conditions
- lead to further tests or procedures for findings unrelated to PFAS, which may not improve health outcomes and can cause stress or unnecessary intervention

PFAS blood levels change very slowly over time, and test results do not guide medical care or treatment. For these reasons, initial and repeat testing are usually not helpful. To note, PFAS blood testing is not publicly funded in Australia.

Does PFAS blood testing help communities?

What blood testing can show (and can't show)

PFAS levels vary widely between individual people and between communities. PFAS blood testing can sometimes be used to compare PFAS levels of a group of people to the average level in the general population. However, this type of testing is very unlikely to show whether PFAS is causing health problems in a community.

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Why studies struggle to answer health questions

To understand whether PFAS exposure is affecting community health, studies need to include large numbers of people over many years, with clear information about:

- exposure
- health outcomes
- other factors that strongly affect health.

This is important because many factors that influence health, such as age, smoking, diet, weight, physical activity and kidney health, can affect the same conditions that have been studied in relation to PFAS.

If these factors are not carefully measured and accounted for, study results can be misleading (this is known as bias or confounding).

In practice, reliable studies also require:

- clearly different exposure levels between people
- exposure levels high enough to detect small health effects.

Even when these conditions are met, it is often difficult to draw definitive conclusions. These conditions are not currently met in most Australian communities, including the Blue Mountains.

What evidence from Australia shows

Large Australian studies have investigated the link between PFAS and health effects, including the Australian National University PFAS Health Study in communities such as Williamtown, Oakey and Katherine. In these studies, where exposure was clearly defined and PFAS levels in blood were higher than background levels in the general population, the investigating teams did not find consistent links between PFAS exposure and most health outcomes.

This highlights that even with large carefully conducted studies, it is difficult to identify clear health effects, and is consistent with evidence that any impacts from environmental PFAS exposure, if present, are likely to be small.

How to assess whether action to limit an environmental exposure has worked

PFAS blood testing is sometimes discussed as a way to understand whether action taken in a community has been effective.

Where concern about exposure relates to a known and measurable source, such as drinking water, the most effective way to assess whether an intervention has reduced exposure is to monitor that source directly.

In the Blue Mountains, WaterNSW disconnected Medlow Dam and Greaves Creek Dam from supply in 2024 due to elevated levels of PFAS. A treatment system specifically to remove PFAS has been operating at the Cascade water filtration plant since December 2024. Following treatment upgrades, PFAS levels are now below the current *Australian Drinking Water Guidelines*, and ongoing water testing can confirm that these reductions are being maintained.

Blood testing is much less useful for this purpose because PFAS levels in blood change slowly, vary between individuals, and are influenced by many factors other than drinking water.

What this means

For these reasons, and because blood test results do not change health advice, medical care or recommended health screening, NSW Health does not recommend PFAS blood testing as a way to determine whether PFAS exposure is causing health problems in a community.

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What does a 'high' PFAS blood result mean?

There is no clear definition of 'high' PFAS levels in blood in Australia.

Some international guidance, suggests that people with higher PFAS levels should:

- focus on reducing exposure, where possible, as a precaution
- continue routine, age-appropriate health checks and screening (such as cholesterol, blood pressure, and cancer screening, where indicated)

In Australia, these actions are already recommended for the general population and are not changed by PFAS blood test results.

Are there treatments to remove PFAS from the body?

There are no approved medical treatments in Australia to remove PFAS from the body.

Some studies have explored options such as:

- cholesterol-lowering medicines
- blood or plasma donation.

While these approaches may reduce PFAS levels in blood, the evidence is limited and it is not known whether this leads to improved health outcomes. They can also involve risks or side effects.

For these reasons, they are not recommended as treatments for PFAS exposure.

Important warning

Be cautious about products or procedures promoted to 'detox' PFAS, including:

- supplements or special diets
- chelation therapy
- unregulated or repeated blood removal.

These approaches are not supported by evidence, may cause harm, and are not recommended.

What can I do if I am worried about health effects from being exposed to PFAS?

Reduce exposure where possible:

- Follow local public health advice, including information about known contamination areas. In parts of the Blue Mountains, follow any localised advice from NSW Health or NSW EPA.
- Use the public drinking water supply (town water) for drinking, food preparation (including infant formula), cooking, brushing teeth and other activities that may result in ingestion of water.
    - A treatment system to remove PFAS has been operating at the Cascade water filtration plant since December 2024. Drinking water from the Cascade plant is now within the Australian Drinking Water Guidelines, and ongoing testing confirms that these levels are being maintained.
- Avoid using untreated water sources, such as bore water, river water or groundwater, for drinking, cooking or personal hygiene unless appropriately tested and treated.

- Limit or avoid food from contaminated areas, such as home-grown produce or fish from contaminated sites, where advice has been issued.
- When possible, reduce use of consumer products that may contain PFAS, such as non-stick cookware, stain-resistant carpets and furniture, water-resistant clothing, some cleaning products and cosmetics, some food packaging (e.g. grease-resistant paper or containers)
- Follow workplace safety guidelines if you may be exposed to PFAS at work.

Look after your general health:

- Keep up with routine health checks recommended for your age and health needs
- Speak to your doctor about any symptoms or concerns
- Focus on ways to protect health, such as healthy eating and consuming a wide variety of foods, physical activity, not smoking or vaping, and limiting alcohol intake

When exposure to PFAS is reduced, blood levels are expected to fall slowly over time.

Other Resources

- enHealth fact sheet – Per- and polyfluoroalkyl substances (PFAS)
- Per- and poly-fluoroalkyl substances (PFAS) – Australian Government
- International Agency for Research on Cancer (IARC) Monograph
- Australian National University (ANU) PFAS Health Study
- National Health Measures Survey
- National Health and Medical Research Council (NHMRC) Review of PFAS in Australian Drinking Water Guidelines
- 27th Australian Total Diet Study