

PBB and Thyroid Function in the Michigan PBB Research Registry

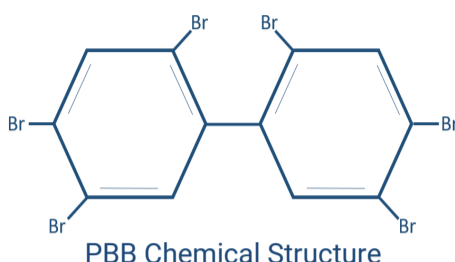
What did we want to know?

PBB is a chemical that was accidentally mixed with farm animal feed in the 1970s.

People across the state ate contaminated farm products.

Many continue to experience health problems.

Is PBB related to thyroid function?



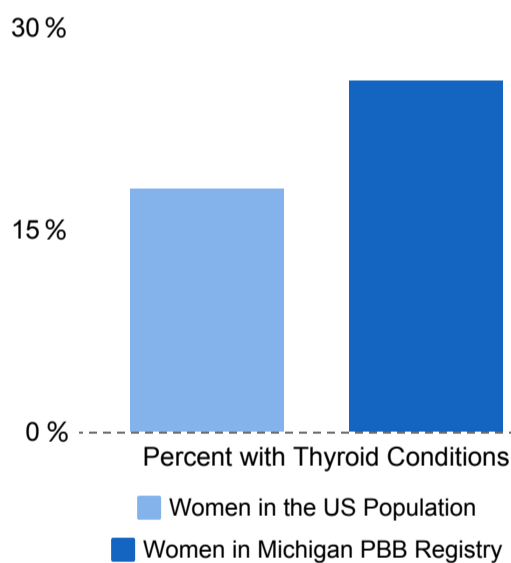
The thyroid is a butterfly shaped gland at the front of the neck.

The thyroid makes hormones that control metabolism.

The chemical structure of PBB is similar to a thyroid hormone.

What did we do?

- 1 Measured PBB in 867 participants from the Michigan PBB Registry.
- 2 Participants completed questionnaires on their health status including thyroid conditions.
- 3 Measured thyroid hormones in 715 of the participants who were not on thyroid medications.



What did we find?

Elevated PBB was found in more than 60% of the participants almost 40 years after the PBB contamination event.

Thyroid conditions were more common among women in the PBB Registry than the US population.

Higher PBB was associated with differences in thyroid hormones among men and women exposed as children.


In an earlier study, men who worked in a PBB factory were more likely to have abnormal thyroid hormone levels than other occupational groups.

What does this mean for you?

If you were exposed to PBB (or other similar chemicals), talk with your doctor about your risk for thyroid problems.

Common symptoms of thyroid problems:

- changes in hair (brittle/dry) and skin (dry/scaly)
- unexplained weight changes
- menstrual irregularities
- muscle and joint pain
- fatigue

 Helpful websites about thyroid disease:
<https://medlineplus.gov/thyroiddiseases.html>
<http://www.hormone.org/diseases-and-conditions/thyroid>

I was exposed to PBB.

Research shows that PBB is associated with thyroid problems.

Do you think my symptoms might be related to my thyroid?

Curtis S, et al. (2019). Thyroid hormone levels associate with exposure to PBB in adults exposed as children. *Environmental Health* 18:75.
Jacobson, M. H., et al. (2017). Serum Polybrominated Biphenyls (PBBs) and Polychlorinated Biphenyls (PCBs) and Thyroid Function among Michigan Adults Several Decades after the 1973-1974 PBB Contamination of Livestock Feed. *Environmental Health Perspectives* 125(9).
Bahn AK, et al. (1980) Hypothyroidism in workers exposed to polybrominated biphenyls. *New England Journal of Medicine* 302(1):31-33.



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