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Thyroid Cancer Rates Raise New Concerns

Two new studies pose questions about why thyroid cancer cases are on the rise and could prompt a shift in long-held thinking

What household products do scientists believe are a link to the dramatic rise in thyroid cancer over the past 40 years? Duke University's Dr. Julie Sosa and WSJ's Tanya Rivero discuss on Lunch Break. Photo: Getty

By [Sumathi Reddy](#)

27 COMMENTS

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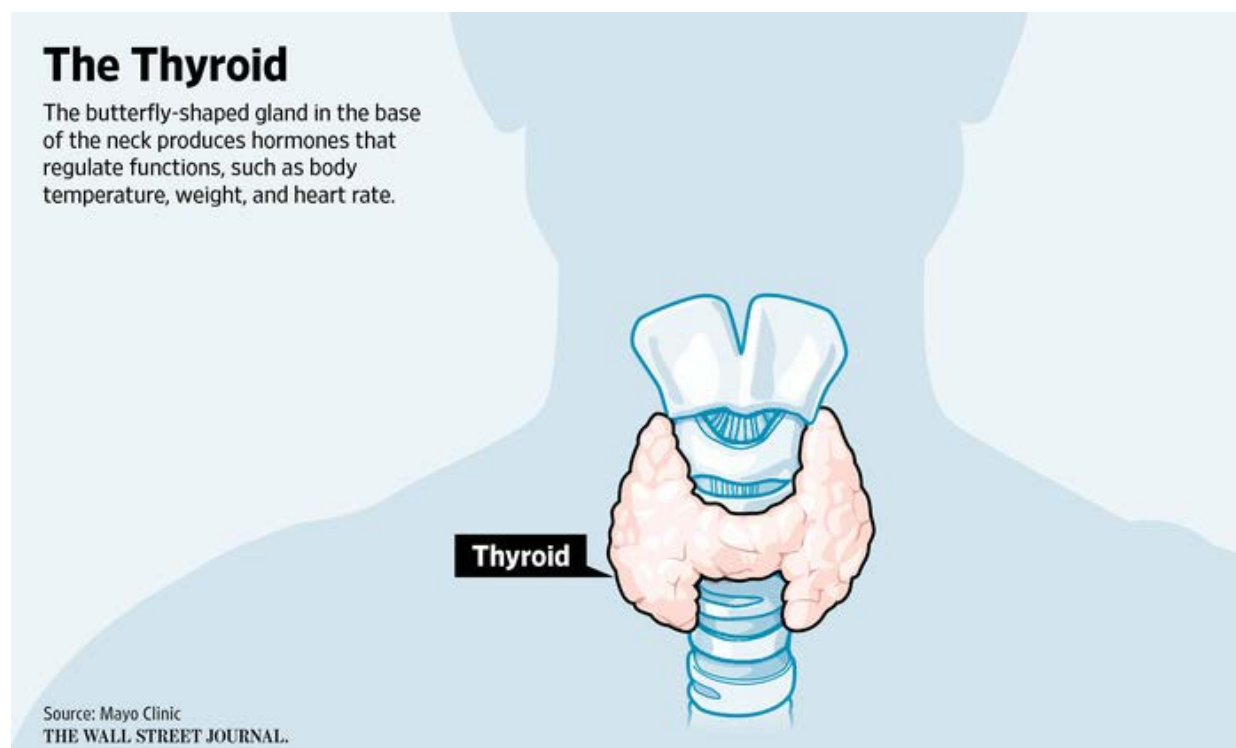
Two new studies show that the high incidence of thyroid cancer may be more dangerous than previously thought.

A study published in *The Journal of the American Medical Association (JAMA)* last month raises new questions about why thyroid cancer cases are on the rise. Data from a separate study points to flame retardants as a possible culprit.

The research could cause a shift of doctors' and researchers' long-held beliefs that the fast-growing rate of thyroid cancer cases is solely due to unnecessary diagnoses involving small tumors that don't lead to death.

The JAMA study showed that the incidence of thyroid cancer has more than tripled over the past four decades, and this includes larger tumors and patients with more deadly disease. The Duke University and National Cancer Institute researchers also found that mortality for thyroid cancer patients has been rising slightly for the past two decades. Compared with other cancers, though, survival rates for thyroid cancer are still overwhelmingly high.

"Tumors of all sizes are increasing significantly, which goes against overdiagnosis being the sole explanation for the epidemic of the disease," said Julie Sosa, chief of endocrine surgery at Duke University and co-author on the JAMA study.



Thyroid cancer is the fifth most common cancer in women, often striking young and middle-

aged women. Patients don't usually have symptoms until it's in an advanced stage, when they may have trouble breathing or swallowing, feel pressure in the neck or notice a change in their voice.

The NCI and Duke researchers tracked the number of thyroid cancer cases from 1974 to 2013 and found there was an increase of 3.6% cases a year on average with mortality increasing 1% a year since 1994, said Cari Kitahara, an investigator at the NCI, part of the federal National Institutes of Health, and a senior author on the JAMA study.

The majority of cases diagnosed during the study period—about 84%—were papillary thyroid cancers. Papillary thyroid cancer is the most-common type of thyroid cancer and generally slow-growing. There was a 2.4% average increase a year in papillary thyroid cancer cases involving metastatic tumors. There was a 6% increase in tumors at least four centimeters in diameter.

The researchers speculated that rising thyroid cancer cases could be related to increasing obesity rates and declining smoking rates since smoking is protective against developing thyroid cancer—though medical experts are quick to note they would never advocate smoking as a prevention tool. A third possible explanation is exposure to endocrine-disrupting chemicals commonly found in household objects. The chemicals are commonly used to reduce the flammability of many household objects, such as furniture and electronics.

In a separate study, whose results were presented at the Endocrine Society's annual meeting in Orlando, Fla., earlier this month, Dr. Sosa and colleagues at the Nicholas School of Environmental Health at Duke University found that higher exposure to three types of flame retardants was associated with papillary thyroid cancer. The data are currently under review for publication.

Researchers took dust samples from the homes of 70 patients with papillary thyroid cancer and 70 patients without thyroid cancer or disease. The participants lived in their homes an average of 11 years. They studied the dust samples, as well as blood and urine samples.

Heather Stapleton, an associate professor of environmental chemistry and exposure science at Duke University and co-author of the study, said the use of flame retardants has grown dramatically over the past few decades due to fire codes and industry standards. She said animal studies have shown that exposure to some of these compounds can affect thyroid hormone regulation.

Dr. Sosa also noted that the chemical structure of one of the flame retardants, DecaBDE, is very similar to that of thyroid hormone and can potentially imitate it, confusing the body and disrupting the way the thyroid works. DecaBDE, short for decabromodiphenyl ether, is commonly found in furniture and electronics and is hard to avoid. It is no longer produced in the U.S. but thought to be produced elsewhere, Dr. Stapleton said.

A spokesman for the American Chemical Council, Bryan Goodman, said it was difficult to comment on the research without seeing the full results. “Based on what we have seen, it appears that the study largely focuses on specific flame retardants that were phased out of production years ago,” he said.

He noted that flame retardants include a “broad range of products with differing characteristics, formulations and intended uses.”

Bryan Haugen, professor of medicine and pathology at the University of Colorado in Aurora and a thyroid cancer specialist, said the majority of new thyroid cancer cases are still due to detection but the JAMA study clarifies the fact that there’s a “small but real component of a real increased incidence.”

Still, even with the increase, he noted that thyroid cancer still has a very low mortality rate. “Most people live a good full life with a diagnosis,” he said.

Write to Sumathi Reddy at sumathi.reddy@wsj.com

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