

## Is This in Your Home? May Make Kitty Suffer

They tested kitties for these disease triggers - here's what they found. Thought to be a major culprit in the steep rise of this devastating disease, despite efforts to reign it in. Here's your path to nixing it from your kitty's life. And watch for these three telltale signs Kitty already has it.

**Analysis by Dr. Karen Shaw Becker**

### STORY AT-A-GLANCE

- A recent study suggests the flame-retardant chemicals that replaced polybrominated diphenyl ethers (PBDEs) are also endocrine disruptors and also contribute to hyperthyroidism in cats
- Earlier research identified per- and polyfluoroalkyl substances (PFAS), another class of common household chemicals, as a possible contributor to feline hyperthyroidism
- PFAS are found in nonstick or slick surfaces, such as food packaging, stain- and water-resistant fabrics, nonstick cookware and firefighting foam
- To preserve the health of your pet's thyroid gland, it's important to take steps to reduce his or her exposure to sources of chemical contamination

***Editor's Note: This article is a reprint. It was originally published September 17, 2019.***

According to a study published recently in the journal Environmental Science & Technology,<sup>1</sup> scientists have identified yet another household chemical linked to the steep rise in feline hyperthyroidism, now the most common endocrine-related disease in cats over the age of 10.

About half of cats with hyperthyroidism have an increase in appetite, but also ultimately experience weight loss because too much circulating thyroid hormone increases metabolism. Other symptoms include high blood pressure, frequent vomiting, increases in body temperature, heart and respiration rates, and hyperactivity.

A combination of increased appetite, weight loss and sudden, unexpected bursts of energy in an older cat is a red flag for hyperthyroidism. If you suspect your feline family member might have a problem with his thyroid, make an appointment with your veterinarian as soon as possible. The disorder can be diagnosed with a simple blood test.

### The Problem With PBDEs

In the mid-1970s, manufacturers began putting polybrominated diphenyl ethers (PBDEs) into certain household and office products, including:

- Polyurethane foam products — upholstered furniture, mattresses, pillows
- Computers, printers, copiers, scanners, faxes

- Carpet padding
- Toner cartridges
- Vehicle seat covers
- TVs and TV remote controls
- Kitchen appliances
- Video equipment
- Fans
- Blow dryers
- Water heaters
- Cell phones

PBDEs increase the temperature it takes to make these products burn, making them more flame-resistant. Unfortunately, the compounds leak from products as they heat up during use or when they begin to deteriorate. PBDEs are known endocrine and thyroid disruptors, so it's no coincidence that widespread use of these chemicals occurred right before the first diagnoses of hyperthyroidism.

## **Study Shows Alternatives to PBDEs Are Also a Problem**

In 2004, U.S. manufacturers started voluntarily phasing out PBDEs in response to environmental and health concerns. They were replaced with other types of compounds, including organophosphate esters (OPEs), such as tris(1,3-dichloroisopropyl) phosphate (TDCPP).

Not surprisingly, recent research suggests these alternative flame retardants can also act as endocrine disruptors. For the study, scientists at Oregon State University recruited the owners of 78 housecats aged 7 years and older. Half the kitties were hyperthyroid, and half were not.

The owners were given silicone collar tags to put on their cats for seven days, after which the researchers analyzed the silicone (which picks up volatile and semi-volatile organic compounds) and found higher levels of TDCIPP on the tags taken from kitties with hyperthyroidism. Among the cats without the disorder, TDCPP levels correlated with serum concentrations of a hormone that is elevated in hyperthyroidism.

Higher TDCPP levels were also associated with cats living in homes where air fresheners were used (one of the reasons I recommend getting rid of all air-scenting products), in homes built since 2005, and with kitties partial to napping on upholstered furniture.

## **Minimizing Your Family's and Pet's Exposure to TDCIPP**

From California's Proposition 65 website:<sup>2</sup>

- Consider furniture products made with foam alternatives, such as cotton, wool, natural latex or products made with untreated polyurethane foam.
- Look for children's furniture products that are labeled as not using flame retardants.

- (Specific to California) For upholstered furniture, check the label commonly found underneath the seat cushion, and look for:
  - TB 117-2013 label (Technical Bulletin 117-2013) for furniture manufactured and sold in California beginning in January 2015: The label must indicate whether or not the product contains added flame retardants. Products with this label are less likely to have chlorinated tris.
  - TB 117 label (Technical Bulletin 117) for furniture manufactured and sold in California prior to 2015: The label will not indicate whether or not added flame retardants are present. Products with this label are more likely to have flame retardants such as chlorinated tris.
  - If you do not see a label, ask if flame retardants, and specifically chlorinated tris, have been added to the product.
- Replace upholstered furniture products that are torn or have crumbling foam.
- Avoid exposure to dust which can contain chlorinated tris:
  - Wash your and your child's hands frequently, especially before preparing food and eating.
  - Clean your floors regularly, using a wet mop if possible, or a vacuum with a high-efficiency particulate air (HEPA) filter.
  - Dust regularly, using a damp cloth.

## Another Household Chemical Linked to Hyperthyroidism in Cats

A study published a year ago revealed yet another chemical substance found in households may be contributing to feline hyperthyroidism as well. The chemicals are called per- and polyfluoroalkyl substances (PFAS), and they are widely used as water and oil repellents. According to ScienceDaily:

*"PFAS are a family of more than 3,000 structures of highly fluorinated chemicals used in industrial processes and consumer products, such as protective coatings for carpets, furniture and apparel, paper coatings, insecticide formulations, and other items."*<sup>3</sup>

PFAS are used in many industrial applications calling for nonstick or slick surfaces, such as food packaging, stain- and water-resistant fabrics, nonstick cookware and firefighting foam. These chemicals are now ubiquitous in our environment, having migrated into the air, household dust, food, soil and ground, surface and drinking water.

For the study, a team of researchers at the California Environmental Protection Agency looked at blood levels of PFAS in two separate groups of Northern California cats, most of which were at least 10 years old. The first group of 21 was evaluated between 2008 and 2010; the second group of 22 was sampled between 2012 and 2013.<sup>4</sup>

The researchers observed that the higher the blood levels of PFAS, the more likely the cat was to be hyperthyroid. One type of PFAS in particular, perfluorooctanoic acid (PFOA) was significantly higher in hyperthyroid kitties. These findings "... may indicate a possible link between PFAS levels and cat hyperthyroid, warranting a larger study for further investigation," according to the research team.

In a bit of good news, the scientists noted a slight decline in PFAS blood levels between the first group of cats tested eight to 10 years ago, and the second group tested more recently. This mirrors recent results in humans as more companies phase out use of these chemicals, and presumably, as people gradually replace PFAS-treated household

items.

## Reducing Exposure to PFAS

Your best bet is to avoid all products that contain or were manufactured using PFAS, which will typically include products that are stain-resistant, waterproof or nonstick. From the Environmental Working Group:<sup>5</sup>

- Find products that haven't been pre-treated and skip optional stain-repellent treatment on new carpets and furniture
- Cut back on fast food and greasy carryout food, since these foods often come in PFC-treated wrappers
- Especially when buying outdoor gear, choose clothing that doesn't carry Gore-Tex or Teflon tags, and be wary of all fabrics labeled stain- or water-repellent
- Avoid nonstick pans and kitchen utensils — Opt for stainless steel or cast iron instead
- Pop popcorn the old-fashioned way, on the stovetop, since microwaveable popcorn bags are often coated with PFCs on the inside
- Choose personal care products without "PTFE" or "fluoro" ingredients; also avoid Oral-B Glide floss, which is made by Gore-Tex

It's also important to filter your pet's drinking water, and yours, to remove contaminants such as fluoride, chlorine, heavy metals and others. Household tap water typically contains enough toxic minerals, metals, chemicals and other unhealthy substances to damage your pet's health long term.

## 5 Tips to Help Prevent Hyperthyroidism in Your Cat

1. Rid your environment of flame-retardant chemicals
2. Provide an **organic pet bed**
3. Feed a nutritionally optimal, fresh, species-appropriate diet to control iodine levels in your cat's food, since iodine has also been linked to hyperthyroidism
4. Avoid feeding your cat a fish-based diet, since seafood is a very rich source of iodine, and cats aren't designed to process a lot of iodine
5. Avoid feeding **soy products** to your kitty, as they have also been linked to thyroid damage

I also recommend checking your cat's thyroid levels annually after the age of 7.

## Sources and References

[HealthDay July 10, 2019](#)

[ACS News Service Weekly PressPac: July 10, 2019](#)

<sup>1</sup> [Environ. Sci. Technol. 201953159203-9213 Publication Date: July 10, 2019](#)

<sup>2</sup> [CA.gov Proposition 65](#)

<sup>3</sup> [ScienceDaily, September 19, 2018](#)

<sup>4</sup> [Environmental Toxicology and Chemistry, September 19, 2018](#)

<sup>5</sup> [EWG Guide to PFCs](#)