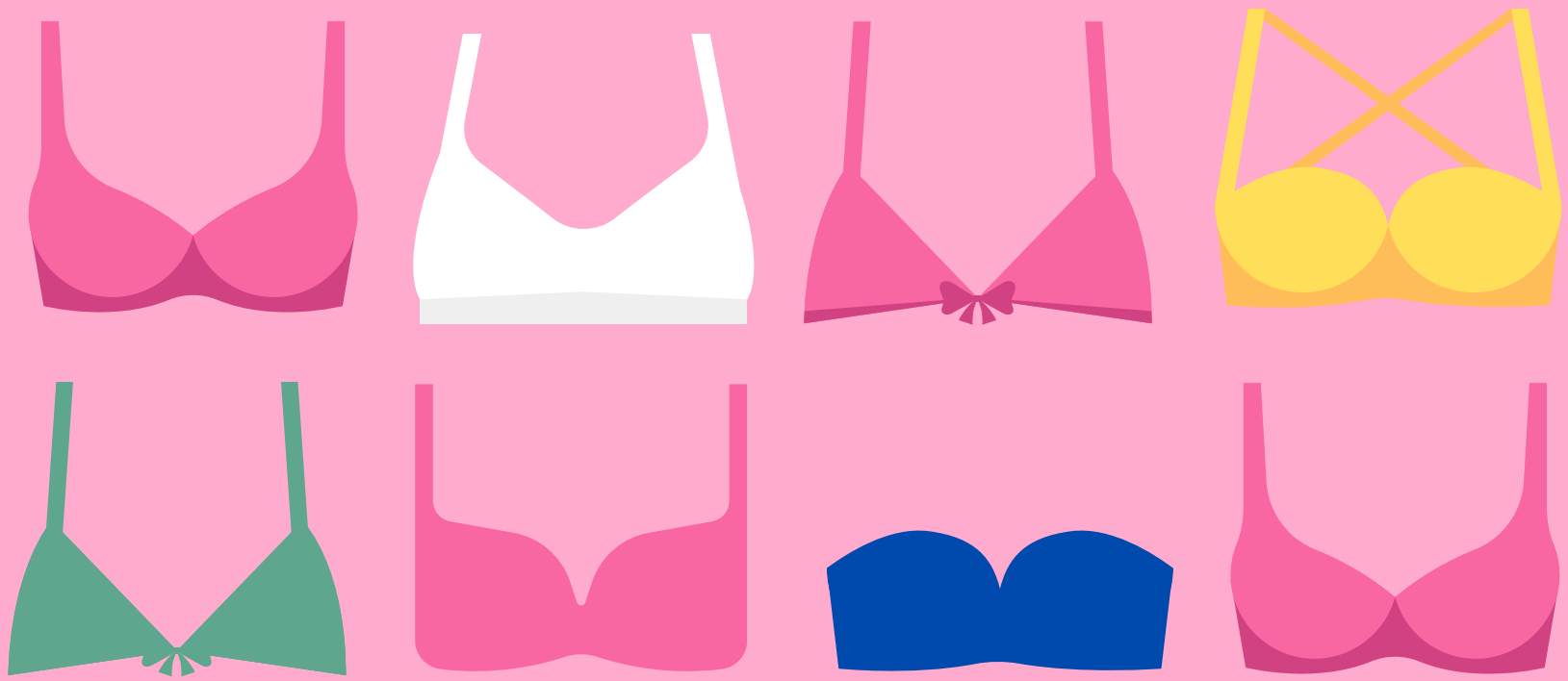
@acshscience | @unbiasedscipod | @themammogramdoc

IS YOUR SPORTS BRA TOXIC?



While it's true that some synthetic workout clothes (sports bras, leggings, even socks) can contain BPA, studies estimate the amount that might reach your skin is small, and there's no evidence that wearing them harms your health.

Let's take a closer look.

What exactly is Bisphenol A (BPA)?

BPA is a synthetic, organic compound and chemical monomer (building block) primarily used to produce polycarbonate plastic and epoxy resins, which have been widely used for decades.

It can be found in many everyday products, including workout clothes, underwear, socks, plastic coating for food containers, and water bottles.



How did the concern begin?

Much of the concern stems from testing by the Center for Environmental Health, an advocacy group. But the widely shared claim that BPA levels were “22 times the safe limit” is based on the group's own estimate, not a peer-reviewed finding.

While laboratory research suggests that sweat and friction can increase BPA release from certain synthetic fabrics, a 2023 study examining 120 garments found that estimated exposure remained below levels of concern, even under worst-case conditions.

In other words, the science doesn't support the panic.

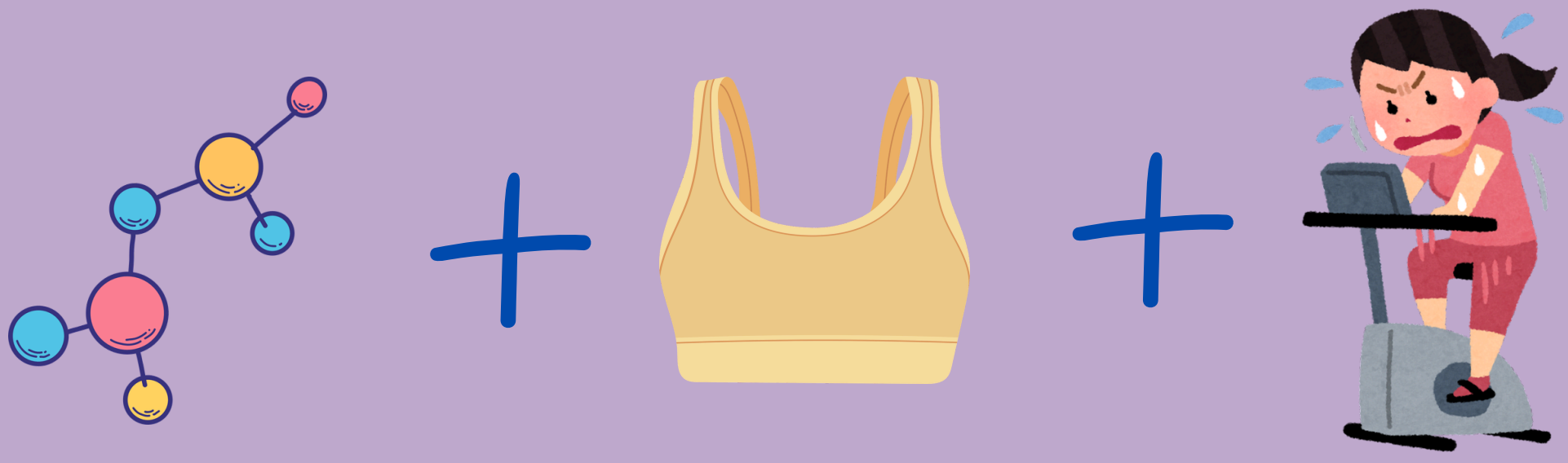


Can BPA actually leach out of fabrics?

Yes, but dose matters, and context is needed.

Lab studies using artificial sweat have shown small amounts of BPA can leach from some synthetic fabrics. But those studies are not the same as measuring exposure in people. The amount released into an artificial sweat does not equal the amount absorbed through skin, and it does not establish that exposure causes disease.

To establish a meaningful health risk, scientists need more than fabric testing. They need reliable measurements of transfer, actual human absorption, exposure levels, and how those levels compare with health-based benchmarks.



THE MISSING EVIDENCE

The peer-reviewed studies have measured BPA in fabrics and then modeled exposure, but nobody has actually measured BPA levels in people wearing these garments. No clinical study has demonstrated a direct link between typical levels of bpa exposure & disease.

It's important to add that the main regulatory agencies disagree sharply on where the safe limit of exposure is. This is largely due to differences in approach (e.g. risk vs. hazard).

In 2023, the European Food Safety Authority (EFSA) set a new acceptable daily intake (ADI) for BPA of 0.2 ng/kg body weight per day: 20,000 times lower than its previous ADI of 4 ng/kg body weight per day.

U.S. agencies have maintained much higher thresholds. The FDA maintains that current BPA exposures from food-contact materials are safe.



How do we determine actual risk?

We come in contact with BPA frequently, through a variety of products and even food.

This contributes to what researchers detect in human samples & makes it difficult to determine the contribution of any single item.

Meaningful health risks need more than fabric testing. They need reliable measurements of transfer, actual human absorption, exposure levels, and how those levels compare if those levels result in adverse health outcomes.



Why are BPAs in fabrics to begin with?

Chemicals like BPA play important roles in manufacturing synthetic fabrics, from producing dyes to protecting materials against degradation.



Should you throw away your sports bras?

No. The claim that sports bras are exposing women to dangerous amounts of BPA is *simply unsubstantiated. BPA's potential health effects have been studied for decades.*

You don't need to panic, throw out your workout wardrobe, or assume that every synthetic fabric is unsafe. Detecting BPA in clothing is *not proof* that wearing it is harming your health.







@acshscience | @unbiasedscipod | @themammogramdoc

What you can do

if you're concerned about exposure



- Wash new activewear before wearing it.
- Remove or *change clothing* after use: ie remove a sweaty sports bra once the workout is over.
- Wash in *cold water* (and ideally hand wash) as hot water can lead to *fabric breakdown* and further leaching of chemicals.
- Consider natural fibers like cotton or wool as alternatives. Keep in mind these materials *may not be as effective* in providing support and *may not maintain their shape* after wear and wash.