Listening to the science on BPA with Greek scientists

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With so much scientific review of bisphenol A (BPA) having already taken place, you might think that there would be little to learn from further review. Numerous government bodies around the world have recently reviewed the science on BPA and independently reached similar conclusions on its safety. But if you thought there's nothing new under the sun, you'd be wrong.

A group of Greek scientists recently published their assessment of BPA in the peer-reviewed scientific literature and concluded that "*exposure to BPA does not pose any significant threat according to most realistic exposure scenarios*." This isn't exactly a new conclusion. For example, the U.S. Food and Drug Administration (FDA), based on its assessment, answers the question "Is BPA safe?" with the straightforward answer "Yes." Similarly, the European Food Safety Authority (EFSA) concluded that "BPA poses no health risk to consumers of any age group (including unborn children, infants and adolescents) at current exposure levels."

What is new is the way they reached their conclusion – which is a substantial build on what others have done. And, it strongly reaffirms the conclusions of FDA, EFSA and others.

In simple terms, safety assessments involve estimating exposure to a chemical and comparing that value with a science-based safe limit established by government scientists. If actual exposure is less than the safe limit the chemical can be considered safe as it is being used. There's a lot more to it, but that's it in a nutshell.

What the Greek scientists did was focus on the exposure side of the equation with several complementary approaches. The consistency of results from the different approaches, not all of which have been applied to BPA before, is what makes their conclusion particularly noteworthy.

The approaches applied by the Greek scientists include:

- Estimation of total intake of BPA (i.e., how much goes in) from all sources, and comparison with the current safe intake level set by EFSA;
- Comparison of the measured amount of BPA in urine, which is how people efficiently eliminate BPA from the body (i.e., how much comes out), with a threshold level known as a "biomonitoring equivalent" that is based on the EFSA safe intake level;

- Estimation of blood levels of BPA (i.e., how much is in the body) and comparison with a threshold level known as a “biologically effective dose” based on EFSA’s safe intake level; and
- Comparison of estimated levels of BPA in blood with a threshold level known as a “biological pathway altering dose.

The last approach is particularly novel and relies on sensitive, state-of-the-art test data generated by the U.S. Environmental Protection Agency (EPA) to calculate the threshold level. As stated by the Greek scientists, “*there is no reason for concern based on either individual or aggregate scenarios of BPA exposure*.”
You’ll be in good company if you join the chorus who are now singing the same song. With apologies to Cole Porter and his lyrics:

> *And that’s why FDA does it, EFSA does it*
>
> *Even scientists from Greece do it*
>
> *Let’s do it, let’s listen to the science on BPA*