

BPA Is An Endocrine Disruptor? Science says NOT!



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If you say something three times it must be true. How do we know that? We know because Lewis Carroll told us so in his poem from 1874 titled [The Hunting of the Snark](#).

“Just the place for a Snark! I have said it twice:

That alone should encourage the crew.

Just the place for a Snark! I have said it thrice:

What I tell you three times is true.”

If you’ve been doing any reading about BPA, you’ve probably noticed more than three times that BPA is commonly referred to as an endocrine disruptor. According to Lewis Carroll then, it must be true.

Or is it?

The term endocrine disruptor is commonly used with no further definition. But we don’t have to guess at what it means; the term endocrine disruptor does have a definition. And using the criteria of that definition, we can determine whether it really is true that BPA is an endocrine disruptor.

Since 2002, the term has been defined by the World Health Organization’s International Program on Chemical Safety ([WHO/IPCS](#)). The WHO/IPCS definition is widely accepted worldwide by scientists and regulatory agencies alike.

“An endocrine disruptor is an exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism, or its progeny, or (sub)populations.” ([WHO/IPCS, 2002](#))

That definition was written by scientists, not Lewis Carroll, so it is not the easiest thing to understand. What it comes down to, according to the WHO definition, is that three things are needed for a substance to qualify as an endocrine disruptor. The substance must 1) have endocrine activity; 2) it must cause adverse health effects; and 3) the adverse health effects must be caused by the endocrine activity. If any of those three elements are missing, the substance does not qualify as an endocrine disruptor.

Starting with the first criterion, we’ve known for decades that BPA does exhibit endocrine activity, which is more specifically described as weak estrogenic activity. That biological property alone only meets the first criterion and tells us we must go further. By itself though it doesn’t mean that BPA is an endocrine disruptor and certainly doesn’t mean that BPA is harmful.

Where it gets interesting is with the second criterion regarding adverse health effects. The U.S. National Toxicology Program (NTP) recently released the results of the so-called [CLARITY Core Study](#), which is the capstone study in a multi-year, multi-million dollar research program aimed at resolving any remaining uncertainties about the safety of BPA.

The scope and magnitude of the CLARITY Core Study are [unprecedented](#) for BPA. If BPA were causing any adverse health effects, they likely would have been found in this study. But, as stated in the conclusion of the [study report](#), “*BPA produced minimal effects that were distinguishable from background.*” In other words, no adverse health effects were found in the study and BPA does not meet the second criterion of the definition for endocrine disruptors. By default then, the third criterion also cannot be met.

Criterion #1: Yes, weak estrogenic activity

Criterion #2: No, no adverse effects

Criterion #3: No, cannot be met if Criterion #2 is not met

Again, if any of the three elements of the WHO/IPCS definition are missing, BPA is not an endocrine disruptor. Based on the results of the CLARITY study, two of the criterion are missing and BPA is not an endocrine disruptor.

In conjunction with the release of the study report, the U.S. Food and Drug Administration (FDA) released a [statement](#) from Dr. Stephen Ostroff, Deputy Commissioner for Foods and Veterinary Medicine. In regard to the CLARITY Core Study, he noted that “*our initial review supports our determination that currently authorized uses of BPA continue to be safe for consumers.*”

When Lewis Carroll was asked about the meaning of the Snark, he noted that he didn't mean anything but nonsense. The same could be said when you next see reference to BPA as an endocrine disruptor.