

Five Fatal Flaws of today's chemical testing for safety

Most regulatory toxicology tests used to evaluate endocrine disruption are inadequate to the task.

1. Most tests ignore today's diseases



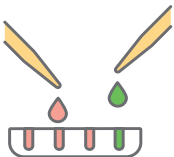
- Most tests are based on decades-old methods, and look for effects on things like organ weight, but not for effects relevant to today's common diseases or disabilities.
- Most tests only look for short-term, not long-term health effects.
- Most tests do not evaluate endocrine disruption; these tests require endocrinological expertise, which most traditional toxicologists do not have.

2. Most chemicals are only tested at high doses, not low doses



- Endocrine disrupting chemicals (EDCs) affect different genes at different doses, which can lead to specific effects at low doses, but different effects at high doses.
- This doesn't mean that high doses are safe; other adverse effects occur at high doses.
- Because regulators only test at high doses, they never detect the low dose effects.
- Testing only high doses cannot predict all the health effects of our current exposures.

3. Chemicals are tested one at a time, not in mixtures



- What's the first question your doctor asks when she prescribes a new medicine? "What medicines are you already taking?"
- That's because chemicals mixed in our bodies interact, and those interactions can alter the effects of exposure.
- We are all exposed to mixtures of chemicals, all the time, and these mixtures have not been tested for safety.

4. Chemicals are not tested for transgenerational effects



- Exposures during development can lead to permanent health effects in later generations without changes in DNA sequence or gene mutations.
- Sometimes the exposure causes no detectable effect on the fetus; effects only begin to appear in the second generation.

5. Regulators ignore independent research



- Regulators discard studies done by independent university researchers, which are of much higher quality than standard regulatory testing.
- The criteria used to discard university research are arbitrary and biased.
- University-based research is conducted by the world's best scientists, peer-reviewed, and funded by governmental institutes of health. Yet it is still ignored by regulators.

Understanding what EDCs are and their effects will help guide smart policy.

