

'Alarming' Levels of 29 Chemicals Affecting Human Fertility Found in Men's Urine Samples

A study published last week in Environment International showed 29 endocrine disruptors — at levels more than 100-fold greater than acceptable exposure rates — in the urine samples of 98 Danish men.

By [Suzanne Burdick, Ph.D.](#)

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A [study](#) published last week in Environment International showed “alarming” amounts of 29 [endocrine disruptors](#) in the urine samples of 98 Danish men, [EuroNews reported](#).

[Endocrine disruptors](#) are chemicals that affect human fertility by [disrupting the normal functioning](#) of the endocrine system.

The team of researchers, led by [Andreas Kortenkamp](#), Ph.D., professor of molecular toxicity at Brunel University London, conducted a chemical analysis of urine samples from 98 Danish men, ages 18-30.

[Prior research](#) has shown a number of chemicals to be problematic for male reproductive health, but the new study was the first of its kind to measure the health risk produced by 29 total endocrine disruptors.

Summary of study and its findings

The researchers completed their analysis in three steps.

First, they measured the amount of nine endocrine disruptors in the urine samples of the 98 men.

Second, the researchers used [existing data](#), mostly from the [European Food Standards Agency](#) (EFSA), to estimate the men's likely exposure to 20 other endocrine disruptors.

Finally, the team compared these measurements with exposure levels deemed acceptable according to the scientific literature.

In doing so, the team was able to generate an overall risk measure — or “hazard index” — for the cocktail of compounds.

The authors said they were “astonished” by their findings: The magnitude of the resulting hazard index showed exposure levels more than 100-fold greater than acceptable exposure rates.

“Our mixture risk assessment of chemicals which affect male reproductive health reveals alarming exceedances of acceptable combined exposures,” the authors wrote.

They predicted “substantial detrimental effects on semen quality due to current combined exposures.”

The authors considered their results to be a conservative estimate.

“Due to the data gaps we had to cope with, this must be regarded as a minimum risk estimate,” they said. “Our analysis does not fully reveal the scale of the problem.”

BPA: a key endocrine disruptor linked to poor semen quality

[Bisphenol-A \(BPA\)](#) stood out as a key chemical pollutant according to the researchers.

BPA is an industrial chemical used in plastics manufacturing and added to many commercial products, such as food containers, [baby bottles](#), [plastic water bottles](#) and hygiene products.

The researchers stressed that regulatory action, such as a ban of BPA from food contact materials, "should not be delayed."

However, they did not think reducing exposure to BPA would remedy the urgency of the situation, noting that "exposures to the remainder of the chemicals investigated here also present serious problems" for men's semen quality.

While the authors noted the 29 chemicals in the study are not the only negative contributors — for instance, [prior research](#) has linked air pollution with poor semen quality — they wrote, "Dedicated efforts towards lowering exposures to these substances are necessary to mitigate risks."

The authors also systematically reviewed the last 10 years of [related studies](#). Based on their study and prior research, they believe the risk posed by these chemicals is largely additive rather than synergistic — meaning the health risks increase commensurate with exposure to the chemicals, rather than by combining certain chemicals.

The researchers acknowledged a few limitations of their research.

For instance, the data used dated from 2009 to 2010, and [BPA exposure](#) may have decreased — at least in Europe, where the [EFSA drastically reduced](#) the recommended daily BPA intake in 2021, so as to nearly ban it entirely — while exposure to other chemicals may have increased.

In the U.S., [the U.S. Food and Drug Administration \(FDA\) has not banned](#) the use of BPA for most food-bearing products.

The FDA in 2013 did ban BPA as a material used in packaging baby formula. However, it [attributed](#) the ban to the fact that BPA was no longer used in baby formula containers rather than to safety concerns.

The study also did not consider whether [women of reproductive age](#) have the same exposure levels as men.

Nonetheless, the authors said their predictions based on their research could and should be verified in future epidemiological studies of semen quality.

The study team included the following chemical groups and compounds because of their relevance to male reproductive health, with a focus on the deterioration of semen quality:

- **Androgen receptor (AR) antagonists:** [Bisphenols A, F, S](#); n-butyl paraben; poly-brominated diphenyl ethers BDE 99, 100, 183, 209; PCB 118, 126; chlorpyrifos; vinclozolin; procymidone and fenitrothione
- **Disruption of prostaglandin signaling and insulin-like factor 3 (InsL3) production:** Paracetamol (i.e., [acetaminophen](#) or [Tylenol](#))
- **Suppression of testosterone synthesis:** [Phthalates](#) DEHP, DnBP, BBzP, DiNP; acrylamide
- **Inhibition of steroidogenic enzymes:** linuron
- **Arylhydrocarbon (AhR) activation:** polychlorinated dibenzodioxins and -furans (PCDD/F, 17 congeners), PCB 118, 126, 169

Although the list may look like a jumble of letters and numbers, it contains many environmental pollutants known to be toxic to living organisms because they disrupt the endocrine system.

What are common endocrine disruptors and how are humans exposed?

The [National Institutes of Health \(NIH\)](#) labels many chemicals — both manmade and naturally occurring — “[endocrine disruptors](#)” because of how they appear to mimic or [interfere with the human endocrine system](#).

“These chemicals are linked with developmental, reproductive, brain, immune, and other problems,” states the NIH website.

Many [endocrine disruptors](#) are compounds found in [materials](#) people encounter in daily life. There is no single, comprehensive list of common endocrine disruptors and the products that contain them.

However, the NIH [provides a list of nine](#) on its website, the Environmental Working Group has [a consumer guide detailing a “dirty dozen”](#) of endocrine disruptors and in February, [The Defender published five ways to avoid endocrine disruptors](#).

In addition to BPA, Kortenkamp and his team highlighted other endocrine disruptors that showed up in their analysis that they thought were largely responsible for the deterioration of semen quality.

For example, [bisphenol F \(BPF\)](#) is in many hard plastic parts in household appliances and vehicles, [Biomonitoring California says](#). It's also used in protective coatings for some drink cans and dental sealants.

The substance is [linked to thyroid dysfunction](#) and its use has been [on the rise](#) as manufacturers look for alternatives to BPA.

The researchers also discussed [bisphenol S \(BPS\)](#). Another cousin to BPA, BPS is used in thermal receipt paper and has been [linked to hormone disruption](#) and [increased risk of cardiovascular disease](#), as [reported](#) by The Defender.

The Endocrine Society in 2014 [announced](#) BPS may cause toxic heart effects in women.

The study's authors also predicted detrimental effects on semen quality due to the group of chemicals called [phthalates](#).

[Phthalates](#) — or plasticizers — are chemicals used to make plastics more durable.

[According to the Centers for Disease Control and Prevention, \(CDC\)](#), [phthalates](#) are in “hundreds of products, such as vinyl flooring, lubricating oils, and personal-care products (soaps, shampoos, hair sprays).”

Although the CDC considers the human health risks of being minimally exposed to phthalates unclear, the U.S. Environmental Protection Agency [is concerned](#) about them “because of their toxicity and the evidence of pervasive human and environmental exposure.”

A study published last month in [Environmental Science and Technology](#) showed pregnant women are being exposed to increasing amounts of dangerous industrial chemicals, including both phthalates and bisphenols, as [The Defender previously reported](#).

Infertility due to chemical pollutants: 'It's a global existential crisis'

Scientists such as [Shanna Swan](#), Ph.D., for years have warned that chemical pollutants are negatively affecting human fertility.

Swan, a reproductive epidemiologist and professor of environmental medicine and public health at the Icahn School of Medicine at Mount Sinai in New York City, believes humans — as a species — meet several criteria for endangerment, partly due to exposure to phthalates and other chemicals, [reported The Defender](#).

In her book "[Countdown](#)," Swan predicted sperm counts could reach zero by 2045, due to the swamp of endocrine disruptors and other chemical pollutants people navigate in modern life.

"In some parts of the world, the average twenty-something woman today is less fertile than her grandmother was at 35," Swan wrote.

On average, Swan said, a man today is likely to have half of the sperm his grandfather had.

"The current state of reproductive affairs can't continue much longer without threatening human survival," wrote Swan, adding: "[It's a global existential crisis](#)."

Although scientists have issued [warnings](#) for decades that chemical pollutants impact human fertility, regulatory action limiting pollutants has been relatively slow.

As of this writing, [FDA regulations](#) still authorize the use of BPA for food-contact materials, save baby bottles, sippy cups and infant formula packaging.

The FDA states on its website:

"Heightened interest in the safe use of BPA in food packaging has resulted in increased public awareness as well as scientific interest. As a result, many exploratory scientific studies have appeared in the public literature.

"Some of these studies have raised questions about the safety of ingesting the low levels of BPA that can migrate into food from food contact materials. To address these questions the National Toxicology Program, partnering with FDA's National Center for Toxicological Research is carrying out in-depth studies to answer key questions and clarify uncertainties about BPA."

The FDA doesn't list a timeline for when the "in-depth studies" will be completed or what actions will be taken in the meantime.

Do COVID-19 vaccines disrupt the endocrine system and impact fertility?

Although [COVID-19](#) vaccines, such as [Pfizer's BioNTech vaccine](#), [have not reportedly carried chemical pollutants](#) traditionally considered to be endocrine disruptors, some scientists are concerned the vaccines may affect the human endocrine system.

Endocrine researchers [published a study](#) in late 2021, documenting seven cases of thyrotoxicosis — excessive thyroid hormonal activity — upon receiving a COVID-19 vaccine.

The authors wrote, "After vaccination, [thyroid] symptoms, including neck pain or weakness in the lower extremities, were judged to be caused by the vaccine."

A month later, another team of scientists [published a study](#) reporting on a case of painful thyroid swelling — called "subacute thyroiditis" — after COVID-19 vaccination.

The CDC released data on June 10 showing a total of [1,301,356 reports of adverse events](#) following [COVID-19](#) vaccines were submitted between Dec. 14, 2020, and June 10, 2022, to the Vaccine Adverse Event Reporting System (VAERS), reported [The Defender](#).

More than 5,000 of the reported adverse events were linked to fertility issues.

VAERS is the primary government-funded system for reporting adverse vaccine reactions in the U.S.

'What I've seen in the last two years is unprecedented'

Dr. James Thorp, an [extensively published](#) physician board-certified in obstetrics and gynecology and maternal-fetal medicine, who has practiced obstetrics for more than 42 years, [told The Epoch Times](#) on April 27:

"I've seen many, many, many complications in pregnant women, in moms and in fetuses, in children, offspring ... fetal death, miscarriage, death of the fetus inside the mom.

"What I've seen in the last two years is unprecedented."

Thorp was [featured](#) on CHD.TV's June 16 episode of "Doctors & Scientists," where he shared [data](#) indicating 1,283 menstrual abnormalities associated with COVID-19 vaccination were reported on VAERS per month, as of February 27.

However, the [American College of Obstetricians and Gynecologists](#) "strongly recommends that pregnant individuals be vaccinated against COVID-19," and adds that pregnant women's complete vaccination should be a "priority."

Former Pfizer vice president Michael Yeadon said concerns about the vaccine's possible impact on fertility were known early on but overlooked.

Yeadon [said in a statement to The Epoch Times](#):

"On December 1, 2020, we detailed a series of mechanistic toxicology concerns which we believed were reasonable to hold, unless and until proven not to occur. Among those was that adverse impacts on conception and ability to sustain a pregnancy were foreseeable.

"It's important to note that none of these gene-based agents had completed what's called 'reproductive toxicology.' Over a year later, this battery of tests in animals still has not been done. So there was and still is no data package supporting safety in pregnancy or prior to conception.

"During 2021, I came across two further pieces of evidence which made it much more likely that there'd be adverse effects on pregnancy from COVID-19 'vaccines.'

"It looked like someone had tried to dismiss our concerns by testing for evidence of the particular problem we'd warned about in Dec. 2020. Unfortunately, all they did is to reinforce our concerns. We'd envisioned the risk that, in responding to the synthetic piece of virus spike protein, women's immune systems would also make an immune response to their own placental protein.

"That's exactly what was reported in the [pre-print paper](#)."

This evidence flagged the vaccine as dangerous for women of reproductive age.

"Based on this concern alone," Yeadon stated, "all of these experimental products as a class should have been completely contraindicated in women younger than menopause."

Another overlooked fertility concern was that “the mRNA products (Pfizer & Moderna) would accumulate in ovaries,” Yeadon said.

“No one in the industry or in leading media could claim they didn't know about these risks to successful pregnancy,” Yeadon told *The Epoch Times*.

Women's menstrual cycles are being affected by the vaccines, Dr. Christiane Northrup [also told The Epoch Times](#).

“Women are having bleedings,” said Northrup, a board-certified obstetrician and gynecologist with more than 30 years of experience.

“The doctors in our area are doing hysterectomies in young women, like 30-somethings, they said, ‘Oh, it's not unusual,’” she said.

“Let me tell you, as a board-certified gynecologist, that's very unusual. Women's periods are messed up all over the place ... I've had a huge Facebook group of thousands of women talking about this situation that was removed,” Northrup added.

Experts discuss infertility and vaccines on CHD.TV

Northrup last week was a featured guest on [CHD.TV's "Friday Roundtable" Episode 11: Infertility: A Diabolical Agenda Expert Q+A.](#)

Other guests included Dr. Andrew Wakefield, Dr. Brain Hooker, Dr. Liz Mumper and Mary Holland, Children's Health Defense president and legal counsel.

The group of experts discussed CHD's new documentary film, [“Infertility: A Diabolical Agenda”](#) — directed by Wakefield and produced by Robert F. Kennedy, Jr. — revealing how some African women's fertility was eradicated through an experimental tetanus vaccination program.

Roundtable guests discussed the film in relation to the current COVID-19 vaccination program, highlighting the impacts of the vaccine on human fertility.

Watch the CHD.TV episode here:

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