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Look & Feel Great

## **Nine Steps to *Look & Feel Great!***

*Everyday toxins can negatively affect our health, mind and body.  
Just look at the number of children with toxicity related issues and the  
number of adults with dementia and Alzheimer's disease  
which accounts for 60 to 80 percent of dementia cases..*



# CHLORPYRIFOS

Pesticide currently used on food and non-food crops.



# TOLUENE

Improves octane ratings in gasoline. Used to make nylon and plastic soda bottles, and as a solvent in paints and adhesives.



# MANGANESE

Keeps metal from corroding.  
Found in stainless steel and  
soda cans.

*If you use stainless steel pots & pans, you should call company  
and ask if they know the levels of manganese.  
Checkout glass pots and pans.*



## **POLYCHLORINATED BIPHENYLS (PCBs)**

Keeps houses from catching on fire. Used particularly in insulation, carbon copy paper and engine coolant.



## MERCURY

Once used in thermometers, barometers, and as a laxative. From coal smokestacks, it ended up in fish.



## FLUORIDE

Prevents and heals tooth decay.  
Occurs naturally in most water  
sources.

*That's what they want you to believe, that fluoride prevents tooth decay.  
I recommend using smart silver in toothpaste since that removes bacteria  
that causes tooth decay.*

“THE MOST  
DAMAGING  
ENVIRONMENTAL  
POLLUTANT OF  
THE COLD WAR”

THE FLUORIDE DECEPTION  
Seven Stories Press 2004

87,000 ▲

FLUORIDE ACTION NETWORK MEMBERS

**QUICK FACT:**

97% of western Europe has  
rejected water fluoridation

SINCE 2010...

236

COMMUNITIES HAVE  
REJECTED FLUORIDE.

**QUICK FACT:**

50 studies have linked fluoride  
with reduced IQ in children.

**QUICK FACT:**

Excessive fluoride exposure can  
cause osteoarthritis.





# ARSENIC

A versatile compound used in bronzing, pyrotechnics, Victorian-era medicines, and pesticide production.

*Arsenic has been detected in  
apple juice,  
conventional chicken,  
other poultry,  
brussels sprouts,  
dark-meat fish,  
rice,  
beer and wine.*

# The Toxins That Threaten Our Brains

Leading scientists recently identified a dozen chemicals as being responsible for widespread behavioral and cognitive problems. But the scope of the chemical dangers in our environment is likely even greater. Why children and the poor are most susceptible to neurotoxic exposure that may be costing the U.S. billions of dollars and immeasurable peace of mind.



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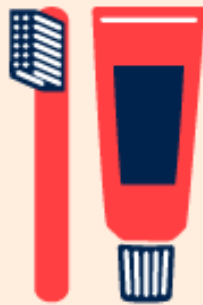
Forty-one million IQ points. That's what Dr. David Bellinger determined Americans have collectively forfeited as a result of exposure to lead, mercury, and organophosphate pesticides. In a 2012 [paper](#) published by the National Institutes of Health, Bellinger, a professor of neurology at Harvard Medical School, compared intelligence quotients among children whose mothers had been exposed to these neurotoxins while pregnant to those who had not. Bellinger calculates a total loss of 16.9 million IQ points due to exposure to organophosphates, the most common pesticides used in agriculture.

health to a heightened pitch. Philippe Grandjean, Bellinger’s Harvard colleague, and Philip Landrigan, dean for global health at Mount Sinai School of Medicine in Manhattan, announced to some controversy in the pages of a prestigious medical journal that a “silent pandemic” of toxins has been damaging the brains of unborn children. The experts named 12 chemicals—substances found in both the environment and everyday items like furniture and clothing—that they believed to be causing not just lower IQs but ADHD and autism spectrum disorder. Pesticides were among the toxins they identified.

## MEET THE NEUROTOXINS



Manganese



Fluoride



Chlorpyrifos



DDT/DDE



Tetrachloroethylene  
(PERC)



Polybrominated  
Diphenyl Ethers  
(PBDEs)





Arsenic



Lead



Mercury



Toluene



Ethanol



Polychlorinated  
Biphenyls (PCBs)

“So you recommend that pregnant women eat organic produce?” I asked Grandjean, a Danish-born researcher who travels around the world studying delayed effects of chemical exposure on children.

“That’s what I advise people who ask me, yes. It’s the best way of preventing exposure to pesticides.” Grandjean estimates that there are about 45 organophosphate pesticides on the market, and “most have the potential to damage a developing nervous system.”

Landrigan had issued that same warning, unprompted, when I spoke to him the week before. “I advise pregnant women to try to eat organic because it reduces their exposure by 80 or 90 percent,” he told me. “These are the chemicals I really worry about in terms of American kids, the organophosphate pesticides like chlorpyrifos.”

For decades, chlorpyrifos, marketed by Dow Chemical beginning in 1965, was the most widely used insect killer in American homes. Then, in 1995, Dow was fined \$732,000 by the EPA for concealing more than 200 reports of poisoning related to chlorpyrifos. It paid the fine and, in 2000, withdrew chlorpyrifos from household products. Today, chlorpyrifos is classified as “very highly toxic” to birds and freshwater fish, and “moderately toxic” to mammals, but it is still used widely in agriculture on food and non-food crops, in greenhouses and plant nurseries, on wood products and golf courses.

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## **These chemicals aren't something that anyone would categorically consider safe. They are poison.**

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Landrigan has the credentials of some superhero vigilante Doctor America: a Harvard-educated pediatrician, a decorated retired captain of the U.S. Naval Reserve, and a leading physician-advocate for children's health as it relates to the environment. After September 11, he made news when he testified before Congress in disagreement with the EPA's assessment that asbestos particles stirred into clouds of debris were too small to pose any real threat. Landrigan cited research from mining townships (including Asbestos, Quebec) and argued that even the smallest airborne asbestos fibers could penetrate deeply into a child's lungs.

Chlorpyrifos is just one of 12 toxic chemicals Landrigan and Grandjean say are having grim effects on fetal brain development. Their new study is similar to a review the two researchers published in 2006, in the same journal, identifying six developmental neurotoxins. Only now they describe twice the danger: The number of chemicals that they deemed to be developmental neurotoxins had doubled over the past seven years. Six had become 12. Their sense of urgency now approached panic. “Our very great concern,” Grandjean and Landrigan wrote, “is that children worldwide are being exposed to unrecognized toxic

*Silent pandemic.* When public health experts use that phrase—a relative and subjective one, to be deployed with discretion—they mean for it to echo.

When their paper went to press in the journal *The Lancet Neurology*, the media responded with understandable alarm:

“A ‘Silent Pandemic’ of Toxic Chemicals Is Damaging Our Children’s Brains, Experts Claim” - *Minneapolis Post*, 2/17/14

“Researchers Warn of Chemical Impacts on Children,” -*USA Today*, 2/14/14

“Study Finds Toxic Chemicals Linked to Autism, ADHD” - *Sydney Morning Herald*, 2/16/14

When I first saw these headlines, I was skeptical. It wasn’t news that many of the chemicals on this list (arsenic, DDT, lead) are toxic. With each of these substances, the question is just how much exposure does it take to cause real damage. For instance, organophosphates aren’t something that anyone would categorically consider safe, in that they are poison. They kill insects by the same mechanism that sarin gas kills people, causing nerves to fire uncontrollably. But like asbestos, they are still legally used in U.S. commerce, with the idea that small amounts of exposure are safe. The adage “the dose makes the poison” may be the most basic premise of toxicology. And hadn’t we already taken care of lead? Didn’t we already know that alcohol is bad for fetuses? Wasn’t fluoride good for teeth?

I found that the real issue was not this particular group of 12 chemicals. Most of them are already being heavily restricted. This dozen is meant to illuminate something bigger: a broken system that allows industrial chemicals to be used without any significant testing for safety. The greater concern lies in what we’re exposed to and don’t yet know to be toxic. Federal health officials, prominent

academics, and even many leaders in the chemical industry agree that the U.S. chemical safety testing system is in dire need of modernization. Yet parties on various sides cannot agree on the specifics of how to change the system, and two bills to modernize testing requirements are languishing in Congress. Landrigan and Grandjean's real message is big, and it involves billion-dollar corporations and Capitol Hill, but it begins and ends with the human brain in its earliest, most vulnerable stages.

## **How Toxins Destroy Brains**

About a quarter of your body's metabolism goes toward operating and maintaining your brain. In order to process even basic information, billions of chemical signals are constantly being carried between neurons. The undertaking is so onerous that even though your brain is not moving (like, say, the powerful muscles in your legs), it uses around 10 times more calories per pound than the rest of you.

Most of that industrious brain and its 86 billion neurons were created in a matter of months. During the first few weeks of gestation, when your mother knew you only as morning sickness and you were a layer of cells huddled in one corner of her uterus, those cells lined up, formed a groove, and then closed to form a tube. One end of that tube eventually became your tiny spinal cord. The rest expanded to form the beginnings of your brain.

*This is a great article in The Atlantic by J. Hamblin*