

Epigenetics Around the Web: No, Dr. Sarah Gottfried, we can't control genes with lifestyle tweaks, and more

This week's features: An MD is pushing pseudoscience to sell her new book, and a word of caution about epigenetics in medicine. Plus, see what's trending on the Epigenetics Literacy Project.

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Dr. Sarah Gottfried

An MD who should know better

Sarah Gottfried is a Harvard-educated physician who has been practicing medicine for more than 20 years. She's also an author: *The Hormone Cure*, *The Hormone Reset Diet* and her latest *Younger*. Oprah, Fox News, Cosmopolitan, NPR, Red Book, and the Huffington Post have featured her work.

She's also a snake oil saleswomen.



Sarah Gottfried

Gottfried has taken the uncertainty of epigenetics and turned it into a sales pitch. Here's what she told NPR News in Milwaukee on March 31, in an interview about her new [book](#):

When I went through my medical training 25 years ago, I was taught that your genes are your destiny. It turns out that you're stuck with the genes you have, but you can change the way your genes are expressed, which is known as epigenetics. You can turn on and off certain genes with your lifestyle decisions – not all of them, but a significant number.

All your genes matter to your health.

There is no evidence that you can 'control' any of your genes. Period.

Gottfried is telling people what they want to hear: your health is fully in your hands. *Eat kale and do yoga and you don't have to worry about your health.*

But that is simply not the case. Genetics and bad luck play significant roles in health and cannot be ignored.

It may sound innocuous, but here is why this line of thinking is dangerous. When you tell someone *they* can control their genes, they start to believe they don't need to get tested for diseases with substantial genetic basis, such as cancer. Why get an invasive procedure like a colonoscopy if eating right will allow you to keep those pesky cancer genes in the off position? Why pay for an expensive genetic screen when it's easier and cheaper to eat some kale and rise above the destiny in your DNA.

[In the March 27 Epigenetics Around the Web](#), (March 27), I dissected a Craigslist ad by self-described 'Life Changer' Glenn Forman which made similar claims. But Gottfried's message is far more dangerous. She is a medical doctor. She sees real patients, who trust her to advise and treat them with consensus science and not quack rhetoric that helps her sell books.

There is one major thing Forman and Gottfried have in common; they both make a point to slap a disclaimer on their advice. From Gottfried's [site](#);

This information is not intended as a substitute for the advice provided by your physician or other healthcare professional or any information contained on or in any product label or packaging. Do not use the information on this web site for diagnosing or treating a health problem or disease, or prescribing medication or other treatment.

I wonder how Gottfried's real patients would feel if she told them that after each appointment.

[You can read Forman's disclaimer [here](#)]

Epigenetics and medicine: Wait for the dust to settle

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The epigenetics drug market is booming! At least according to [several](#) market analyses. And in a lot of ways, that's true. Epigenetics-based drugs for [Alzheimer's disease and cancer](#) are in clinical trials. Diagnostic tools, such as [liquid biopsies](#), based on detecting epigenetic markings have made tremendous strides recently as well. Most of these products have yet to make it to patients, but experts predict it's simply a matter of time.

Well, most experts that is. Derek Lowe (who worked for many years in the pharmaceutical industry), [posting on his blog at Science Translation Medicine](#), delivered words of caution about the future of epigenetics and medicine. In a piece titled "Epigenetics Is Not What You Would Call a Settled Field," Lowe offered a number of reasons why we shouldn't expect epigenetics to revolutionize medicine any time soon.

A few years ago, there was a big burst of activity in the drug industry on epigenetics, which has since died down some among a general atmosphere of "Hmm, that was harder than we thought and we already thought it would be hard". But we just need to catch our breath a bit, and learn more about what's going on.

The reality is that epigenetics in its current form and understanding has really only been around for 10 years. We simply do not know enough yet about how changes in the 3D packaging and molecular tagging of DNA (i.e. epigenetics) translates into altered health status or disease. It will take a long time and a lot of hard work to get there—as Lowe advises "we need to wait for the dust to settle" before this science can really start helping people.

Trending on the Epigenetics Literacy Project

Does IVF affect health of the baby? Examination of epigenetics finds no reason for concern

Lab Blog IVF

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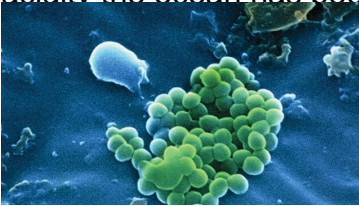
To date, over 5 million babies have been born with the help of IVF. However, there have been concerns about potential health problems in children conceived by IVF. Most of the previous epigenetic studies in IVF focused on selected regions of the genome. But a recent study investigated the entire genome and found the concerns are likely unfounded.

Coral nursery GB x

Fight to save coral: How epigenetics could help in battle against climate change

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The oceans are changing, and the future looks grim for coral and the ecosystems they underpin. But biologists and conservationists are working to ensure coral survival in the oceans, not just the history books. On the reef and in the lab, scientists are discovering novel ways to prepare coral for the heat and acidity the ocean has begun to throw at them.



Should you use 'at-home microbiome detection kits' to improve health?

Scientists say not yet

Startups are offering new services to analyze the complex community of microorganisms living inside you. While these tests could probably tell if you have a serious bacterial infection, scientists say they can't yet diagnose patients with diseases and they are doubtful the tests can reliably provide the kind of personalized information their makers claim they will.

For more epigenetics news—as well as news about the microbiome and endocrine disruptors—check out the [Epigenetics Literacy Project](#), a sister-site to the GLP. Follow us on [twitter](#).

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For more background on the Genetic Literacy Project, read [GLP on Wikipedia](#)