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Nutrigenomics: You Really Are What You Eat

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The belief that “you are what you eat” [originated](#) in the 1800s with epicurean [Anthelme Brillat-Savarin](#) and philosopher [Ludwig Feuerbach](#). They maintained that food affects one’s health and state of mind.

Then American weight loss pioneer Victor Lindlahr declared in 1940 that food actually “controls health.” He wrote that

“Ninety percent of the diseases known to man are caused by cheap foodstuffs. [You are what you eat.](#)”

Today, nutrigenomics scientifically shows how this is true, thanks to advances in the [Human Genome Project](#).

[Nutritional genomics](#) is the study of how foods affect our genes and how our genes affect our response to nutrients in our diet.

The therapeutic promise of nutrigenomics is [predictive medicine](#). Small dietary changes could prevent, delay or treat chronic diseases and certain kinds of cancer for each individual.

Because nutrigenomics touches medicine, agriculture, and even social and public policy, its impact will be enormous.

The [Center of Excellence in Nutritional Genomics](#) at the [University of California, Davis](#) is mapping nutritional interventions by genetic make-up.

They focus on asthma, obesity, Type 2 diabetes, cardiovascular disease, prostate cancer and immune function.

The [Netherlands Nutrigenomics Center](#) has developed genomics applications and a unique database to profile how diet and lifestyle can “switch genes on and off.” They currently focus on muscle functionality, aging and how exercise affects genetic expression.

While we cannot change our genetic make-up, we can influence our genetic expression through personalized nutrition. Being able to “switch genes on and off” through nutrition is the mechanism behind “you are what you eat.”

Finally, research at [Nanjing University](#) in China suggests that some plant RNA remains active in our bloodstreams when consumed. That could suppress certain kinds of genetic expression. RNA is a partner to DNA in the pathway to build proteins.

Could food become medicine by designing plants with therapeutic value? This opens another avenue of nutritional science with exciting possibilities.

As experts have said, the secret to a long and healthy life is diet, exercise and lifestyle.

With advances in nutrigenomics, we are beginning to understand why.

The only downside to these exciting discoveries? **No more excuses!**

Follow Jacqueline @JacquelinVanacek for how cloud and big data transform medicine and health.

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