

Epigenetics act as on/off switch for our predispositions to diabetes and cancers

It's no secret that diet and exercise can directly impact our health. But for many people, genetic predisposition to disease – be it hypertension or diabetes or cancer – is often perceived as a risk that is out of their hands. New findings in the field of epigenetics, however, suggest that we may have more control than previously thought when it comes to preventing the onset of sporadic or even heritable diseases. Our daily routine, from what we eat for breakfast to the distance we travel to work, could determine whether or not our gene sequences activate or prevent the development of cancer within our bodies.

Researchers from the Boston University School of Medicine put forth [an exciting theory](#) earlier this year that, if proven correct, will perhaps identify preventable or stoppable causes of carcinogenesis. They have proposed the existence of processes within our cells that activate specific sequences of DNA that function as epigenetic on/off switches for cancer.

Cancer is the [second most common disease](#) in the United States, and scientists have yet to find a prevention and cure that is applicable to all the many varieties of the disease. Yet with this new discovery, we may be closer than ever to understanding where cancer begins – and even where it might end.

The “on/off switch” hypothesis originates from a basic understanding of epigenetics – a field that has been evolving for more than 20 years. This genetic science investigates the expression or suppression of the genes we inherit at birth. The field seeks to explain changes in the way our genes express themselves as a direct result of our behavior and nutrition, as well as our exposure to environmental factors.

Read the full, original story: [Lifestyle Choices Could Affect Gene Sequences That Code for Cancer](#)