QUESTION OF THE WEEK

Q: What is epigenetics?

We all know that our genes play a major role in our health. Some people appear to be genetically programmed for health, while others seem predisposed to disease. Some serious health issues, such as Type II diabetes, seem to run in families, but this does not have to be the case. Type II diabetes is almost completely avoidable.

"Epigenetics" is a term that describes changes in the body's gene expression that can occur as a result of a variety of factors, both external and internal in nature. These factors can range from exposure to chemicals in the environment to the body's own response to infection or



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stress. In other words, genes that lie dormant can be "awakened" or "switched on" by chronic inflammation, stress, environmental toxins, diet, or aging.

There is growing evidence that dietary factors can change the genetic markers that trigger some cancers. The gene expression begins in utero. In fact, the clean air and unprocessed food your grandparents breathed and ate are affecting you now while today's fast food, exposure to caustic cleaning products, petroleum-based makeup, air pollutants and pesticides are affecting the gene expression of the next generations. It has been shown that pregnant women who eat abundant fruit and vegetables and take prenatal vitamins have babies with a lower incidence of childhood leukemia.

More research is needed, but adverse DNA expression that can result from exposure to environmental toxins, such as the BPA found in plastics and the lining of canned goods, is indicated by reducing contact with these contaminants.

The study of epigenetics is rapidly evolving. This area of medicine holds the key in halting gene expression for chronic disease. We already know that eating wisely — that is, a Mediterranean type plantbased diet — is the most important first step.

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