

Genetics and Epigenetics

What is Genetics?

You probably know that you have inherited your DNA from your parents. Genes within your DNA control how your body works.

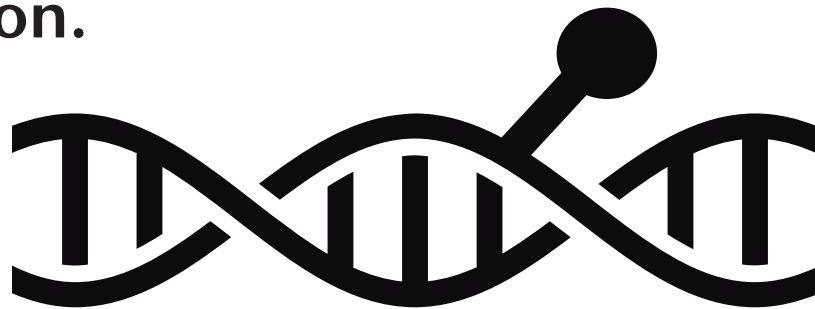
DNA



What is Epigenetics?

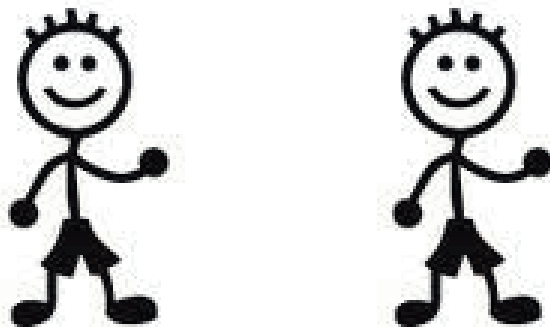
New research shows that you also inherit the effects of your parents' lifestyle and exposures as "tags" on your DNA. This is called epigenetics. These tags affect how the genes in your DNA function.

DNA with tag



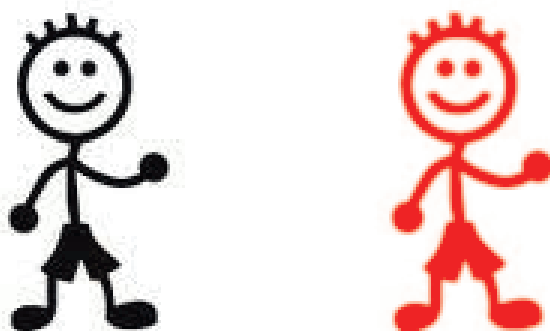
Your own environmental exposures and lifestyle also affect these tags.

Consider these twins:



Identical twins are clones. They are born with the same sequence of DNA. When twins are young they look the same. Even mannerisms may be the same.

As twins get older, they have different environmental exposures. What they eat and their activities are not identical. This can lead to different body features such as obesity, and different diseases such as heart disease and cancer.



Diet, exercise and exposure to harmful things like smoke and UV rays from the sun can change your epigenetic tags. You are especially vulnerable to epigenetic changes during critical periods like puberty and pregnancy.

DNA and genes don't change. But living a healthy lifestyle will influence your epigenetic tags and improve your health.