

JEANS, GENES and MISSING PARIS

As a boy, I grew up in a family consisting of my Mom and Dad and two younger brothers (Jim and John). We were pretty much alike as any family but Jim and my folks had brown hair and John and I were red headed. The difference was always explained to John and me that we “got it from our (paternal) grandmother “who also was a red head. I just assumed that it was one of the many gifts she gave us. John and I got it in lieu of the trip to Paris on which she took Jim. (I would have rather gone to France than have red hair but having been taught to be grateful for any gift I received, never mentioned it until now!)

It wasn't until high school that I learned how my grandmother gave her red hair to John and me. Studying concepts such as dominant and recessive genes, DNA, alleles, meiosis and so forth allowed me to understand how and why we were red headed. College, Medical School, residency and continuing medical education since have provided me greatly enhanced understanding of each person's unique genetic complement (genome) and its importance not only in disease but health. With my increased understanding of my grandmother's gift, I became a bit more annoyed that John and I didn't get a trip to Paris as kids. But, all's well that ends well. Several years ago, Jim, I and our wives took an extended tour of Europe ending in Paris. Although Jim remembered well the Eiffel Tower, Versailles, and, the Louvre, our visit to a Parisian revue on that trip remains his fondest memory of the city. I guess our grandmother's itinerary was a bit more age appropriate for a lad of 10. I am grateful that I first went as an adult!! Although, my wife didn't share my appreciation for the feathered Show Girls and the Can Can, several times during the show she did share her elbow with my rib cage as I perhaps clapped a bit more vigorously than she deemed appropriate or necessary!

One of the most exciting areas of medical knowledge that has evolved during my career as a physician is genetics. We have come to understand much more of the unique characteristics each of us possesses due to our genetic makeup. Every few months, new and exciting information is brought forth which increases our understanding of both health and disease. These strides have yielded much improvement in our overall health and decreased our risk of certain diseases.

Regular readers of this column have read my concern with the fact that worldwide there is an epidemic of obesity. In the United States, two-thirds of the population is either obese or overweight. Affected individuals experience a markedly increased risk for developing one or more serious medical conditions such as diabetes, high blood pressure, and certain cancers. Obesity is said to be the second leading cause of preventable death. Human obesity arises from the interaction of multiple genes, environmental factors, lifestyle and behaviors. Consequently, the management and prevention of obesity are enormous challenges. Little or no physical activity and the ready availability of enjoyable

foods are often cited as the key factors which have resulted in the obesity epidemic. Despite the fact that we all exposed to the same environment, not everyone becomes overweight or obese. This difference has been attributed to our individual genetic makeup. Genetics determines an individual's susceptibility to weight gain when exposed to an unfavorable environment as well as the way an individual responds to diet and exercise.

For the past several years, I have been following the increasing knowledge of genetic factors in weight. During this time we have come to understand that weight control is dependent upon the interplay between diet, activity (exercise), lifestyle and the key variable being genetics but modifying a weight loss plan to include genetic factors was not possible. However, recently, very exciting results have been obtained in dietary weight loss and weight control due to specific genetic testing of individuals. At a recent American Heart Association Joint Conference the results of a well controlled and conducted study with collaboration of researchers from Stanford University and a genetic laboratory were presented. The researchers found that individuals following a diet matched to specific genetic weight loss markers found within the individuals' genome lost two and one half times more weight than individuals on similar caloric controlled diets not matched to those individuals genome. (Nelson, M.D. et al, *Genetic Phenotype Predict Weight Loss Success: The Right Diet Does Matter*. Presented at the American Heart Association's Joint Conference-50th Cardiovascular Disease Epidemiology and Prevention and Nutrition, Physical Activity and Metabolism-2010, March 2010 San Francisco, Ca.)

This genetic test includes a panel of genes that have been validated as significant modifiers of body weight and responsiveness to diet and exercise. The genes were selected from the Obesity Gene Map Database based on a comprehensive review of the scientific literature using stringent selection criteria by a team of experts from genetics, nutrition, obesity and weight loss management areas.

This genetic test provides results which will clearly reveal the type of diet-low fat, low carbohydrate, or balanced macronutrient diet- one should follow given that individual's specific genetic makeup. We are pleased to offer this testing to our patients as another step in addressing the frustrating problems of weight loss and weight control and expect it will greatly enhance the weight control success they experience.

The test is simple. We take a swab from the inside of the patient's mouth, dry it and send it to the genetic laboratory for analysis. The results are available in approximately two weeks and include a detailed report for both me and the patient. The patient's report includes a detailed analysis. Extensive education and dietary counseling is then provided the patient by both me and a genetic counselor from the laboratory. We will then be able to further enhance the weight loss or weight maintenance program we develop individually for each of our patients.

Paying attention to your genes may result your getting back into those jeans you have been keeping in the back of your closet!

Take in from me however. I have learned that while working with your genes may get you back into your favorite clothes, it won't get you to Paris!

I hope each of you have a wonderful spring!

Benton Baker III, MD, FACS, FACOG and his staff would be pleased to assist you in achieving your weight loss goals. He can be reached at 200 River Pointe, Suite 115 Conroe, Texas 77304, 936-756-8446. Visit our website www.hateyourweight.com.