Epigenetic inheritance may contribute to diabetes risk

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

While scientists have identified several genetic risk factors for diabetes and obesity, some have proposed epigenetic alterations in gametes as another potential mechanism of disease risk inheritance. Now, a mouse study by researchers in Germany, published in *Nature Genetics*, provides new evidence in support of this epigenetic inheritance theory, showing that different diets in otherwise identical mice can determine glucose intolerance and obesity risk in offspring via egg and sperm cells

“The view so far was that [risk] is all determined by genes—it’s fate,” said study coauthor Johannes Beckers of the Helmholtz Zentrum München. “But our findings give back a certain responsibility to the parents. They really have the possibility to affect what offspring inherit in their epigenome.”

Approximately 90 percent of nearly 350 million cases of diabetes worldwide are classified as type 2. In addition to environmental factors often cited to explain the high prevalence of the disease—including poor diets and sedentary lifestyles—several epidemiological and mouse studies have hinted that diet-induced susceptibility to obesity and diabetes, acquired during parents’ lifetimes, can be inherited.

Andy Feinberg of the John Hopkins University School of Medicine in Baltimore, who was not involved in the research, cautioned that although the study was “very well-designed and well-controlled,” extrapolations to human biology would require further research involving more complex genetic backgrounds. “To generalize and say that this transgenerational effect is a major contributor in human diabetes—I don’t think you can draw a conclusion like that from a single inbred strain of mice.”

Read full, original post: Obesity, Diabetes, and Epigenetic Inheritance