Some epigenetic changes in DNA are heritable, and research is beginning to explain how

In recent decades scientists have learned that DNA alone is not destiny, and they've been focusing on another layer of genetic inheritance called epigenetics, which also play a role in determining what our DNA blueprints look like (more on that below). And in a new study published in the journal *Cell*, researchers show how it's possible to pass on these epigenetic changes — which are not permanent alterations to the genome — created by exposure to things like tobacco, environmental pollutants and diet, as well as lifestyle behaviors.

Studies show that some epigenetic changes might be transmitted from one generation to the next, but, says Azim Surani of the Wellcome Trust/Cancer Research Gurdon Institute at the University of Cambridge, and senior author of the *Cell* paper, "It's still an open question to what extent that happens." Surani's results raise interesting questions about why epigenetic changes might be "inherited" in the first place.

Of the changes that they documented in the small sample of human embryos they studied, as well as among mice, they found that a certain core of genes may preferentially escape from the epigenetic cleansing. These genes are predominantly involved in nerve and brain cell function, as well as metabolic conditions, so they could preferentially impact conditions such as obesity and schizophrenia.

More work needs to be done to figure out what exact role epigenetics, and de-methylation, might play in these conditions, but the findings do point to an other potential contributor to these conditions, and possibly some helpful therapies.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: Explaining 'Epigenetics': The Health Buzzword You Need to Know