

New research underlines the importance of getting help before chronicity sets in

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A study led by Howard Steiger, PhD, head of the Douglas Mental Health University Institute Eating Disorders Program (EDP), in Montreal, in collaboration with Linda Booij, a researcher with Sainte-Justine Hospital and an assistant professor at Queen's University, is the first to observe effects suggesting that the longer one suffers from active anorexia nervosa (AN), the more likely they are to show disorder-relevant alterations in DNA methylation.

When methylation is altered, gene expression is also altered, and when [gene expression](#) is altered, the expression of traits that are controlled by those genes is also changed. In other words, altered methylation can produce changes in emotional reactions, physiological functions and behaviors. A report to be published in the *International Journal of Eating Disorders*, entitled "DNA methylation in individuals with Anorexia Nervosa and in matched normal-eater controls: A genome-wide study," is showing chronicity of illness in women with AN to be associated with more pronounced alteration of methylation levels in genes implicated in anxiety, social behavior, various brain and nervous system functions, immunity, and the functioning of peripheral organs.

"These findings help clarify the point that eating disorders are not about superficial body image concerns or the result of bad parenting. They represent real biological effects of environmental impacts in affected people, which then get locked in by too much dieting," says Dr. Steiger, Chief of the Eating Disorders Program at the Douglas Institute and a professor of Psychiatry at McGill University.

"We already know that [eating disorders](#), once established, have a tendency to become more and more entrenched over time. These findings point to physical mechanisms acting upon physiological and nervous system functions throughout the body that may underlie many of the effects of chronicity. All in all, they point to the importance of enabling people to get effective treatments as early in the disorder process as possible," adds Dr. Steiger.

Exploring crucial questions

The results of this work imply that epigenetic mechanisms may underlie some of the consequences of [anorexia nervosa](#) that affect [nervous system](#) functioning, psychological status and physical health. If so, an intriguing possibility arises: Does remission of anorexic symptoms coincide with normalization (or resetting) of methylation levels (and could such effects provide clues to more effective treatments)? Current work at the Eating Disorders Program at the Douglas Institute is oriented toward exploring exactly this question.

Provided by Douglas Mental Health University Institute

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