

PROJECT FACT SHEET

What Are Fat Hormones Doing in the Brain?

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The number of overweight and obese children in Canada is rising, and Type 2 diabetes has become epidemic throughout North America. Together obesity and diabetes are also known to increase the risk of high blood pressure and heart disease later in life.

Two Nova Scotia researchers are investigating the causes and implications of human obesity and have discovered that several fat hormones are found in the brain. These novel findings may eventually enable health-care professionals to more effectively help patients who are obese or who chronically overeat.

Michael Wilkinson, a Professor in the Department of Obstetrics and Gynaecology at the IWK, and Ehud Ur, Head of the Division of Endocrinology at the Queen Elizabeth II Health Sciences Centre in Halifax, found that these hormones are made not just in fat cells but also in the brain and pituitary gland. These surprising findings may reveal an important role in weight regulation developed during adolescence and puberty.

“We are working on connecting abnormalities in these newly discovered hormones to the onset of obesity and diabetes during puberty and later on in life,” says Dr. Wilkinson.

“Down the road,” adds Dr. Ur, “understanding these hormones may lead to new treatments for obesity and the many related health problems that plague Nova Scotians.”

The researchers also found that these hormones also seem to play a role in the newborn brain’s response to injury. Although quick to note that this discovery requires additional research, they speculate that this is an exciting connection that may lead to a better understanding of how the human brain protects itself, and to new treatments for brain injuries.

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