

# Welsh medics to examine how surgery can cure diabetes

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Scientists at Swansea University's School of Medicine have been awarded more than £93,000 by the BUPA Foundation to investigate why weight-reducing surgery can lead to the almost immediate disappearance of diabetes in patients.

95% of morbidly obese people – those with a Body Mass Index of over 40 – have Type 2 diabetes, sometimes known as maturity-onset diabetes.

However, nearly 80% of patients who undergo gastric bypass surgery to reduce the size of their stomachs and small intestines find that their diabetes disappears within two to three days – before any weight loss has occurred.

Senior Clinical Lecturer Dr Jeffrey Stephens is leading the research at the School of Medicine's Diabetes Research Group. He said: "Although patients with Type 2 diabetes do not always require insulin treatment, the average diabetic needs about 30 units of insulin a day to control blood sugar levels.

"For obese patients, this can rise to 200 units a day. To go from such a high level of insulin-dependency to not needing insulin in a matter of a few days is a dramatic result, and we need to understand the reasons why this happens."

The research team, which includes Professor Steve Bain and Professor Rhys Williams from Swansea University's School of Medicine, and

Professor John Baxter, a bariatric surgeon with Swansea NHS Trust, are focusing attention on a protein known as Glucagon Like Peptide 1 (GLP-1), which is produced in the small intestine.

Dr Stephens said: “Overweight people who have Type 2 diabetes tend to have lower levels of GLP1 and we are investigating whether these levels return to normal after bariatric surgery. Basically, we want to know whether reducing the size of the small intestine and stomach restores production of GLP1, and why this should be the case.”

High blood sugar seen with poorly controlled diabetes may cause lethargy, excessive thirst and susceptibility to infection, and contributes to diabetic complications including premature heart disease, stroke, blindness, and gangrene.

“Bariatric surgery is not just effective in terms of controlling obesity. It clearly has other major health implications, with the potential to impact positively on Type 2 diabetes and other associated conditions. There is also the potential for the NHS to generate substantial savings in long term treatment costs,” added Dr Stephens.

“Not only will this research improve our understanding of why overweight people develop Type 2 diabetes, it may also lead to an effective, non-surgical treatment for those with the condition. We are immensely grateful to the BUPA Foundation for giving us this opportunity.”

Source: University of Wales

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