

METABOLIC SURGERY

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The phrases 'metabolic' or 'diabetes' surgery are increasingly being used in conjunction with, or instead of, 'bariatric surgery' owing to the highly effective way that surgery improves the metabolic syndrome, with weight loss being a welcome additional effect. Type 2 diabetes is part of the 'metabolic syndrome', which includes high blood pressure, dyslipidaemia and polycystic ovary syndrome. Control of type 2 diabetes improves with weight loss owing to an improvement in insulin resistance. Remarkably, diabetes control appears to improve after several types of bariatric surgery before meaningful weight loss occurs. Some of the effects on glucose metabolism can be attributed to caloric restriction, but changes in gut hormones levels, particularly glucagon-like-peptide 1 (GLP-1), have provoked much interest. GLP-1 is an incretin, a gut hormone that stimulates the beta cells in the pancreas to restore the normal first-phase insulin response after eating. Bile acids are also involved in this. Although type 2 diabetes is a chronic disease and bariatric surgeons in the early 2000s initially claimed to 'cure' it, the emphasis has now changed to improving glycaemic control by lowering glycated haemoglobin (HbA1c) and improving insulin resistance, with the ultimate goal of reducing cardiovascular risk and improving survival. The term diabetes 'remission' is now commonly used by bariatric surgeons and endocrinologists, and is defined as patients being off all medication with normal glucose homeostasis. In the SOS study, patients with diabetes went into remission after surgery, and in patients without diabetes there was a decreased incidence of patients developing diabetes. Summary box 68.2 Metabolic surgery

The term metabolic surgery refers to the marked effects of surgery on diabetes and the metabolic syndrome, which may have a more important impact than weight loss itself. Improvement in type 2 diabetes may be additional to weight loss. Surgery is very cost-effective.

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