Obesity

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

LAGB-induced weight loss can lead to diabetes remission

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓

1 Obesity and type 2 diabetes are closely associated conditions that are increasing in prevalence.

2 Although weight loss is linked with an improvement in blood glucose control, people with diabetes have more difficulty losing weight compared with those without diabetes.

3 Studies have shown that laparoscopic adjustable gastric banding (LAGB) is a surgical approach that results in significant weight loss.

4 This study compared surgically induced weight loss by LAGB with conventional weight-loss approaches in 60 obese people with type 2 diabetes.

5 Twenty-nine people in the surgical group and 26 people in the conventionally treated group completed the 2-year study.

6 After 2 years, the surgical group lost a mean 20.0% of body weight compared with 1.4% for the conventionally treated group.

7 Twenty-two people in the surgical group (73%) and four people in the conventionally treated group (13%) achieved remission of their type 2 diabetes.

8 Remission of type 2 diabetes was associated with greater weight loss at 2 years and lower HbA_{1c} values.

9 Thus, surgical weight loss by LAGB demonstrated superior glycaemic control and high rates of diabetes remission in obese individuals with type 2 diabetes.

Dixon JB, O'Brien PE, Playfair J et al (2008) Adjustable gastric banding and conventional therapy for type 2 diabetes: a randomised controlled trial. *Journal of the American Medical Association* **299**: 316–23

Why not now bariatric surgery for type 2 diabetes?

Jonathan Pinkney, Consultant Physician, Royal Cornwall Hospital, Truro, and Senior Lecturer, Peninsula Medical School

Open a medical journal these days and you will be confronted with a host of new experimental treatments, such as stem cell therapies. Even NICE has been drawn into commenting, perhaps rather prematurely, on islet cell transplants for type 1 diabetes; although such is the current lack of evidence, that even NICE found itself unable to offer any 'guidance'. In contrast, it is well known that type 2 diabetes in obese patients usually enters a sustained remission after bariatric surgery, but this treatment has not yet become widely accepted. The study by Dixon and colleagues (abstract alongside) – the first RCT of its sort to be reported – should go some way towards removing remaining apprehensions about this type of intervention. The results clearly showed that laparoscopic adjustable gastric banding was far superior to conventional treatment of diabetes – at least for this group of patients, with 73% in diabetes remission at 2 years in the surgical group (three times better than islet cell transplant results in type 1 diabetes! Shapiro et al, 2006). The authors acknowledge that longer-term data are still needed, and there remains a need for larger-scale clinical trials.

Nevertheless, this study confirms numerous other less well-controlled trials over two decades that have demonstrated the power of bariatric surgery to deliver durable remissions in obese people with type 2 diabetes. Safety has always been a paramount concern, of course, and Morino and colleagues provide useful new evidence (summarised below) confirming the very high level of safety of gastric banding in particular, and also of gastric bypass. Furthermore, there has always been concern about the safety of bariatric surgery in elderly obese individuals, who make up much of the population with diabetes. The interesting paper of Perry and colleagues (abstracted on page 98) confirms the safety of modern bariatric surgery for selected patients in the over 65 age group. All of these studies are compelling.

Compared with the well-known and major reduction in life expectancy from diabetes, the small risks of bariatric surgery may compare favourably. Of course, most people with type 2 diabetes are unaware of this because their carers never present them with the option. Might their treatment choices change if they were more aware of their reduced life expectancy from diabetes and the potential benefits and safety of bariatric surgery?

Shapiro AM, Ricordi C, Hering BJ, et al (2006) International trial of the Edmonton protocol for islet transplantation. *NEJM* **355**: 1318–30

ANNALS OF SURGERY

Mortality after bariatric surgery is rare

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓✓

1 The aim of this Italy-based study was to investigate the risk factors for mortality with various bariatric surgery procedures: mainly gastric bandings and bypasses.

2 A retrospective analysis was carried out using the Italian National Registry on bariatric surgery between January 1996 and January 2006.

3 In this search period, 13871 procedures were carried out, including adjustable silicone gastric banding (ASGB), vertical banded gastroplasty (VBG), gastric bypass, and bilopancreatic diversions (BPD).

4 The 60-day mortality rate was 0.25%, but the type of procedure significantly affected the mortality risk ($P<0.001$).

5 Diabetes also significantly influenced mortality ($P<0.05$), as did open surgery, hypertension, operation time and case load per centre.

Morino M, Toppino M, Forestieri P et al (2007) Mortality after bariatric surgery: analysis of 13,871 morbidly obese patients from a national registry. *Annals of Surgery* **246**: 1002–7

'A brief intervention to set goals for healthy living can improve the dialogue between the patient and physician, resulting in increased physical activity and weight loss.'

ANNALS OF SURGERY

Bariatric surgery improves survival

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓✓

1 The study compared survival rates in morbidly obese people who underwent bariatric surgery (n=11 903) with those who did not (n=190 448).

2 The prevalence of major weight-related comorbidities (diabetes, sleep apnoea, hypertension, hyperlipidaemia and coronary artery disease) were compared between the two groups.

3 At 2 years, the mortality rate in the surgical group was 4.5% (8.6% in the non-surgical group) for people under 65 years, and 8.0% (12.2% in the non-surgical group) for people ≥65 years; the diagnosed prevalence of all five comorbidities was lower in the surgical group than in the non-surgical group.

4 Morbidly obese people who had bariatric surgery had increased survival rates and reduced comorbidities.

Perry CD, Hutter MM, Smith DB et al (2008) Survival and changes in comorbidities after bariatric surgery. *Annals of Surgery* **247**: 21–7

ARCHIVES OF INTERNAL MEDICINE

Healthy living goals improve weight loss

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

1 The study determined whether brief counselling about healthy living would achieve increased physical activity and weight loss in people with type 2 diabetes who were overweight (body mass index ≥25kg/m^2).

2 Participants were randomly assigned to the intervention group (n=155) or to the control group (n=155).

3 Self-management goals on nutrition and physical activity were set for people in the intervention group and were reviewed by physicians at each clinic visit; people in the control group only received printed healthcare information.

4 Levels of physical activity increased in the intervention group from 26% at baseline to 53% at 12 months (30% to 37% in the control group), and 32% of people in the intervention group lost ≥2.7 kg at 12 months (19% of people in the control group).

5 A behavioural intervention to set goals for healthy living improved dialogue between the patient and physician, and resulted in increased physical activity and weight loss.

Christian JG, Bessesen DH, Byers TE et al (2008) Clinic-based support to help overweight patients with type 2 diabetes increase physical activity and lose weight. *Archives of Internal Medicine* **168**: 141–6

DIABETES CARE

Rimonabant is safe and effective for weight loss

Readability	✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

1 The endocannabinoid system and its cannabinoid type 1 (CB_1) receptor have been linked to obesity and type 2 diabetes.

2 This study examined the efficacy of the first selective CB_1 receptor blocker, rimonabant, on overweight and obese people using pooled 1 year data from the Rimonabant in Obesity and Related Metabolic Disorders (RIO) studies and the RIO-Diabetes study; 3165 and 692 people, respectively, completed the 1-year study.

3 Rimonabant 20 mg/day produced a meaningful weight loss in overweight/obese people and significantly improved their insulin resistance, lipid profile and glucose metabolism; rimonabant was also generally well tolerated.

Van Gaal L, Pi-Sunyer X, Després JP, McCarthy C, Scheen A (2008) Efficacy and safety of rimonabant for improvement of multiple cardiometabolic risk factors in overweight/obese patients. *Diabetes Care* **31** (Suppl 2): S229–40

BRITISH MEDICAL JOURNAL

Anti-obesity drugs show modest effect

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

1 As numbers of obese and overweight people are increasing, drug intervention is commonly sought to promote weight loss.

2 A systematic review and meta-analysis was undertaken to determine the long-term efficacy of anti-obesity drugs and any adverse effects.

3 Thirty double-blind, randomised, placebo-controlled trials of anti-obesity drugs taken by adults for 1–4 years were analysed: 16 on orlistat (n=10 631); 10 on sibutramine (n=2623); and 4 on rimonabant (n=6365).

4 Compared with placebo, each drug reduced weight by a modest amount: orlistat reduced weight by 2.9 kg; sibutramine reduced weight by 4.2 kg; and rimonabant reduced weight by 4.7kg.

5 The anti-obesity drugs had differing effects on cardiovascular risk profiles and had specific adverse effects: orlistat reduced the incidence of type 2 diabetes and improved total cholesterol and low-density lipoprotein cholesterol, blood pressure and glycaemic control, but had gastrointestinal side effects; sibutramine reduced high-density lipoprotein cholesterol and triglycerides, but raised blood pressure and pulse rate; and rimonabant improved high-density lipoprotein cholesterol and triglycerides, blood pressure and glycaemic control, but increased mood disorders.

6 When prescribing antiobesity drugs, recognition of comorbid factors is important to establish a favourable risk:benefit ratio.

Rucker D, Padwal R, Li SK et al (2008) Long-term pharmacotherapy for obesity and overweight: updated meta-analysis. *British Medical Journal* **335**: 1194–9