key points

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Diabetes risk increases exponentially with increasing body mass index (BMI) particularly if fat accumulates centrally and/or in the skeletal muscle, liver and other organs such as the pancreas. People of Asian ethnicity are particularly prone to develop diabetes at a lower BMI than Caucasians. Those with diabetes and co-existing obesity, particularly if it is severe, are also at risk of other obesity-related conditions, such as cardiovascular disease, obstructive sleep apnoea, joint pain, many cancers and depression.

In people with impaired glucose tolerance, modest weight loss can reduce the development of overt diabetes by 50% or more over four years. Once diabetes has developed weight loss can also be of benefit. Supporting patients to lose weight should be considered a key goal of diabetes care for all overweight and obese patients with type 2 diabetes. Increased physical activity improves insulin sensitivity and can help weight loss maintenance.

Metformin is the first-line therapy and is generally considered weight neutral. Of the oral therapies available second line, DPP-IV inhibitors are weight neutral and the newer SGLT2 inhibitors can produce 2-3 kg of weight loss on average. Insulin is an essential treatment for some patients but often causes weight gain and patients should be counselled about this. Adjunctive treatment with metformin, SGLT2 inhibitors, DPP-IV inhibitors and GLP-1 analogues can help keep insulin doses lower and limit weight gain.

Currently, obesity pharmacotherapy in type 2 diabetes is limited to orlistat, which has been shown to improve glucose control. NICE guidance recommends bariatric surgery as a clinically and cost effective option for obese patients with type 2 diabetes, particularly those with severe obesity. Procedures typically result in 20-30% of body weight loss. Improvement in blood glucose control in those with diabetes is often rapid, especially with the gastric bypass, where there is evidence that changes in incretin hormones such as GLP-1 might contribute to the improvement in glucose control. The profound energy restriction in the perioperative period is also likely to make a major contribution.

Bariatric surgery carries risks and should only be offered after careful assessment by a multidisciplinary team. In practice, the full assessment process including support for lifestyle change, medical and psychological assessment and patient education usually takes 12-24 months. A follow-up care package is provided within the bariatric service for a minimum of two years. This involves: monitoring and treatment for complications of surgery, ongoing support for dietary changes, monitoring comorbidities, measuring blood levels of vitamins and minerals and providing psychological support. Patients who have had bariatric surgery require lifelong follow-up.