

## **OBESITY: WHEN IS SPECIALIST REFERRAL NEEDED?**

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## **OBESITY: WHEN IS SPECIALIST REFERRAL NEEDED?**

Obesity is a chronic progressive condition affecting 27% of the UK adult population. Obesity underlies much of primary care workload; 44% of type 2 diabetes (T2D) cases, 23% of ischaemic heart disease and 41% of certain cancers are attributable to excess BMI.<sup>1</sup> Worryingly, the number of adults with severe obesity, which significantly reduces life expectancy, has doubled to approximately 2.6 million over the last decade. Obesity and related illnesses lead to significant healthcare costs, estimated at £56.5 billion/year (3% of UK Gross Domestic Product) and additional societal costs from reduced productivity secondary to obesity-related ill-health.<sup>2</sup>

### **IMPROVING HEALTH THROUGH WEIGHT MANAGEMENT**

Obesity is a complex issue with no single or simple solution. Preventing incident obesity is crucial but for those people already affected we need to provide optimal, evidence-based care. Multidisciplinary weight management programmes that encompass changes in diet, behaviour and physical activity need to be established and readily accessible across the UK. Prescription medications and bariatric surgery where indicated should be seen as adjuncts to facilitate such programmes rather than standalone alternatives.

Bariatric surgery offers the most effective method for substantial and sustained weight loss, whilst significantly improving obesity-associated comorbidities and improving quality of life. Responsibility for commissioning bariatric surgery was devolved from NHS England to Clinical Commissioning Groups (CCGs) in April 2017 with the primary aim of increasing consistency in obesity care pathways nationwide. However, commissioning of medical weight management services (Tier 3) across the UK is variable and, in some areas, absent, whilst less than 1% of people who fulfil National Institute for Health and Clinical Excellence (NICE) eligibility criteria for bariatric surgery are able to access it (Tier 4).

Greater awareness of the evidence supporting bariatric surgery health outcomes and the NHS weight management pathway are needed to assist GPs in advising their patients and Commissioners in determining local policy so that patients are able to access the right treatment at the right time.

### **THE NHS TIERED SYSTEM OF WEIGHT MANAGEMENT**

The UK tiered system for weight management, as defined by NHS England and Public Health England Working Group in 2013, combines wider public health measures with individual medical and surgical care.<sup>3</sup> Tier 1 includes prevention initiatives, often at population level. Tier 2 describes lifestyle interventions within primary care whilst Tiers 3 and 4 comprise specialist medical weight management services and bariatric surgery, respectively.

#### **Tier 3**

Tier 3 programmes comprise a clinician-led multi-disciplinary team providing specialist dietary, medical and psychological treatments with regular follow-up. NICE reviewed 29 randomised controlled trials (RCTs) of multi-component lifestyle weight management programmes, finding a mean 3% weight loss at 18 months. Tier 3 clinics also assess and prepare patients for subsequent surgical assessment and provide patients with either a specialised long-term treatment plan to be implemented in partnership with their GP or forward referral to bariatric surgery.

#### **Tier 4**

Sleeve gastrectomy and Roux-en-Y gastric bypass are the two most commonly performed bariatric procedures both globally and in the UK. These procedures alter the direction of nutrient passage through the gastrointestinal tract, in turn altering neuroendocrine gut-brain signalling that regulates energy intake and glycaemic control. Gastric banding has proven less effective and is now infrequently performed.

#### **WHAT ARE THE HEALTH BENEFITS OF BARIATRIC SURGERY?**

Bariatric surgery produces sustained weight loss with a 30-40% decrease in mortality and reduced co-morbidities demonstrated in most major organ systems. Cardiovascular improvements include resolution of hypertension, hyperlipidaemia and 50% reduction in heart failure 4 years post-surgery. Reduced incidence of first-time cancers are widely reported, particularly in women. Non-alcoholic fatty liver disease improves with reduced progression to fibrosis and cirrhosis. Alongside resolution of obstructive sleep apnoea, musculoskeletal disorders and infertility, most patients report improved functional status and quality of life.

Arguably the greatest benefit is remission or marked improvement of T2D. The UK National Bariatric Surgery Registry found that 65.1% of T2D patients were off medication by 2 years post-surgery, rising to 80% by 3 years. RCTs show surgery outperforms best medical management in achieving T2D remission, reducing insulin dependency and lowering risks of micro- and macrovascular complications by one half and one third respectively.<sup>4</sup> Moreover, surgery prevents T2D incidence in 78% of patients by 20 years post-surgery, irrespective of pre-operative BMI.<sup>5</sup> Timing is crucial; success is markedly greater when surgery is performed within 10 years of T2D diagnosis.

#### **WHAT ARE THE RISKS AND COSTS OF BARIATRIC SURGERY?**

Bariatric surgery is universally performed laparoscopically. It is safe; 30-day mortality is 1.6 per 1000 patients and in-hospital mortality 0.07%<sup>6</sup>, both lower than most common elective laparoscopic operations. There are, however, risks of nutritional deficiencies and up to 20% of patients fail to sustain post-surgical weight loss, frequently due to inadequate support post-discharge from secondary care.<sup>7</sup> NICE recommends minimum 2 years follow-up in a bariatric unit followed by annual monitoring in primary care as part of a shared-care model of chronic disease management.<sup>8</sup>

The initial cost for bariatric surgery – approximately £6,000/patient – is offset by long-term savings from improved health. Nationally, T2D remission and reduced medication use alone are forecast to save £18.1 million by 4 years post-surgery.<sup>9</sup> Incremental cost-effectiveness ratio for surgery is £2-4,000 per Quality-Adjusted Life Year gained if BMI≥40, well below the £20,000 NICE limit of acceptability.<sup>10</sup> Downstream savings from reduced NHS contact are difficult to quantify as these will vary significantly per person. However, using T2D complications to illustrate, in the UK 21,000 patients undergo dialysis for end-stage renal failure at a cost of £30,800/patient/year.<sup>11</sup> A further 16,800 patients undergo renal transplantation costing £17,000 per transplant. End-stage diabetic foot disease results in 140 amputations/week in the NHS with surgery costing £10,000, hospital admission £3,000 and physiotherapy £34/episode.<sup>12</sup> Extrapolate these scenarios to all obesity-related diseases and it is difficult to dismiss the long-term financial gains from bariatric surgery for fear of short-term cost.

### **WHO SHOULD BE REFERRED FOR SPECIALIST CARE?**

NICE clinical guidance (CG189) and quality standards (QS127), alongside the Royal College of Surgeons (England) – British Obesity and Metabolic Surgery Society commissioning guide (2017), outline referral criteria for Tiers 3 and 4. In summary, referral to a Tier 3 service should take place for people with:

- BMI  $\geq 40$  kg/m<sup>2</sup>
- BMI  $\geq 35$  kg/m<sup>2</sup> with a co-morbid condition improvable by weight loss
- BMI  $\geq 30$  kg/m<sup>2</sup> despite undergoing Tier 2 interventions

Bariatric surgery is recommended as a treatment option for obesity if all of the following stand true:

- BMI  $\geq 40$  kg/m<sup>2</sup> or BMI  $\geq 35$  kg/m<sup>2</sup> with a co-morbid condition improvable by weight loss
- All appropriate non-surgical measures have been tried but clinically beneficial weight loss is not achieved or maintained
- The person is receiving or will receive intensive management in a Tier 3 service
- The person is generally fit for anaesthesia and surgery
- The person commits to long-term follow-up

Furthermore, expedited referral to surgery is recommended in people with BMI  $\geq 50$  kg/m<sup>2</sup> or with recent-onset type 2 diabetes (T2D), i.e. less than 10 years duration, even down to BMI  $\geq 30$  kg/m<sup>2</sup>. For people of Asian ethnic origin, all of the above BMI thresholds may be reduced by 2.5 kg/m<sup>2</sup>.

### **CONSIDERATIONS FOR COMMISSIONERS AND GPs**

To assist CCGs in providing effective weight management services in their region, a number of approaches are recommended. Firstly, assess local needs by finding out the degree of obesity in the local population, the need for and potential uptake of each Tier. Then, identify a champion for obesity, either a lead clinician or commissioner, to drive forward service development. Next, local primary care guidance should be produced covering how to raise the issue of obesity with patients, the local referral pathways and GP roles post-surgery. Existing regional Tier 2 and exercise referral services should be identified as these may be incorporated into a specialist Tier 3 programme, without need to develop new services. In order to share limited specialist resources and provide effective joined up commissioning of Tier 3 and 4 services, CCG regions are encouraged to work together. The NICE local costing template can be used to estimate future expenditure. Lastly, it is vital to implement effective audit and evaluation of services, including contributing to national registries.

The management of people with obesity requires a chronic disease shared-care model approach. In the current climate of overstretched primary care resources, it is crucial that GPs recognise the profound health and economic benefits that Tiers 3 and 4 offer individual patients and the NHS. Moreover, commissioning of Tiers 3 and 4 against fixed criteria is crucial to ensure uniform services and equal access for patients across the country.

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