

## **Specialised Morbid Obesity Services (all ages) - Definition No. 35**

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### **Preface**

This definition is part of the third edition of the Specialised Services National Definitions Set (SSNDS) being produced over 2008/10. The SSNDS was last edited in 2002. During 2008/10 all of the definitions in the second edition of the SSNDS will be updated; in addition three new definitions will be added to the Set.

Each definition is drawn up by a process involving providers (clinicians, hospital managers, and information and coding staff), commissioners and patients' groups and is then endorsed wherever possible by relevant national organisations. Finally, when the definition has been signed off by the National Specialised Commissioning Group it is published on their website.

The purpose of a definition is to identify the activity that should be regarded as specialised and therefore within the remit of PCT collaborative commissioning. A service is specialised if the planning population (ie. catchment area) for that service is greater than one million people. This means that a specialised service would not be provided by every hospital in England; generally, it would be provided by less than 50 hospitals.

The definitions are not prescribed service models nor do they set service standards. Where national standards for a specialised service already exist, these may be referred to in the definition.

Inclusion of a treatment or intervention in a definition should not be taken to mean that there is established evidence of clinical or cost effectiveness.

The production of the SSNDS is an iterative process. The content of individual definitions in the SSNDS will inevitably change over time as new healthcare services which are specialised are introduced into the NHS and other services, which were previously specialised, become commonplace and cease to be considered specialised.

Future editions of the SSNDS will become more refined as the classifications systems develop and become better able to categorise specialised service activity. The current classification systems used in the third edition are the International Classification of Diseases, version 10, and the OPCS Classification of Interventions and Procedures, version 4.

Comments and suggested improvements to the definitions are very welcome and can be sent to the National Specialised Commissioning Group. Contact details are available from the NSCG website: [www.specialisedcommissioning.nhs.uk](http://www.specialisedcommissioning.nhs.uk)

## 1. Introduction

Obesity is a disease with strong genetic and environmental determinants. Obesity now affects more people world-wide than malnutrition. Obesity is defined as body mass index (BMI) greater than 30 kg/m<sup>2</sup>, with severe or morbid obesity defined as BMI of 35-40 kg/m<sup>2</sup> with co-morbidities or over 40 kg/m<sup>2</sup> without co-morbidities. Prevalence of obesity has trebled since 1980 and has now reached 24% in both males and females in England (Health Survey for England, 2006). The prevalence of obesity tends to be higher in lower socio-economic groups, particularly for women, where the prevalence in social class V is twice that in social class I.

In 2006 1.4% of men and 2.7% of women (approximately 1.2 million in the UK as a whole) were morbidly obese. Obesity, particularly severe obesity, substantially increases risk of coronary heart disease and various cancers. There is also substantial co-morbidity, with increased incidence of Type 2 diabetes, hypertension, osteoarthritis, sleep apnoea, and obesity hypoventilation syndrome. Severe obesity is also a psychosocial and social burden, often resulting in social stigma, low self esteem, reduced mobility and a generally poorer quality of life.

The prevalence of obesity is also increasing in children. In general, obesity results from low activity levels, and a higher than required intake of energy dense foods. Studies in twins have indicated a genetic predisposition, although genetic factors do not fully explain family similarities in body weight. Children are at considerably increased risk of obesity in adulthood if they are from a manual background, they are overweight in childhood and/or their parents are overweight or obese (Freedman D.S. et al. (Jan 2005) 'The relation of childhood BMI to adult adiposity: The Bogalusa Heart Study' Paediatrics Vol. 115 (1) pp. 22-27).

The National Audit Office (2001) report 'Tackling Obesity in England' highlighted that 6% of all deaths can be attributed to obesity, and deaths linked to obesity shorten life by 9 years on average.

Most management of obesity and overweight (including morbid obesity) takes place in the community or in primary care, with many people taking responsibility for their own weight management, often supported by commercial slimming organisations. Patients may also have access to dietetic support, exercise referral schemes, psychological support and medical treatment (drug therapy) via their general practitioner. These interventions are appropriate for a high proportion of the obese population, but some patients with more severe obesity require more specialist medical input or surgery.

Patients with complex co-morbidity, e.g. obesity hypoventilation, renal or cardiac failure, binge eating disorder, or with very rare genetic or endocrine condition, e.g. Lawrence-Moon-Biedl syndrome, Prader Willi syndrome, are treated at specialist centres.

This definition concerns specialised medical and surgical services for morbid obesity for both children and adults. Only a very small proportion of morbidly obese patients are currently offered surgery. Many patients do not wish to have surgery or are unsuitable for a wide range of reasons; these patients still require specialist management. Surgical provision is provided at specialist morbid obesity surgery centres stocked with specialist equipment and access to anaesthetists with experience of morbid obesity patients.

## **2. Rationale for the service being included in the Specialised Services National Definitions Set**

The provision of specialised morbid obesity services, both medical and surgical, is currently variable across England. Developing a configuration of specialist morbid obesity centres that maximises access but minimises uneconomic proliferation will require collective PCT planning.

Specialist morbid obesity centres require multi-disciplinary staff teams concentrated in relatively few specialist centres dealing with sufficient numbers of patients to develop and maintain expertise and achieve successful outcomes.

## **3. Links to other services in the Specialised Services National Definitions Set**

The links between the definition for specialised morbid obesity services and other specialised services definitions are indicated below:

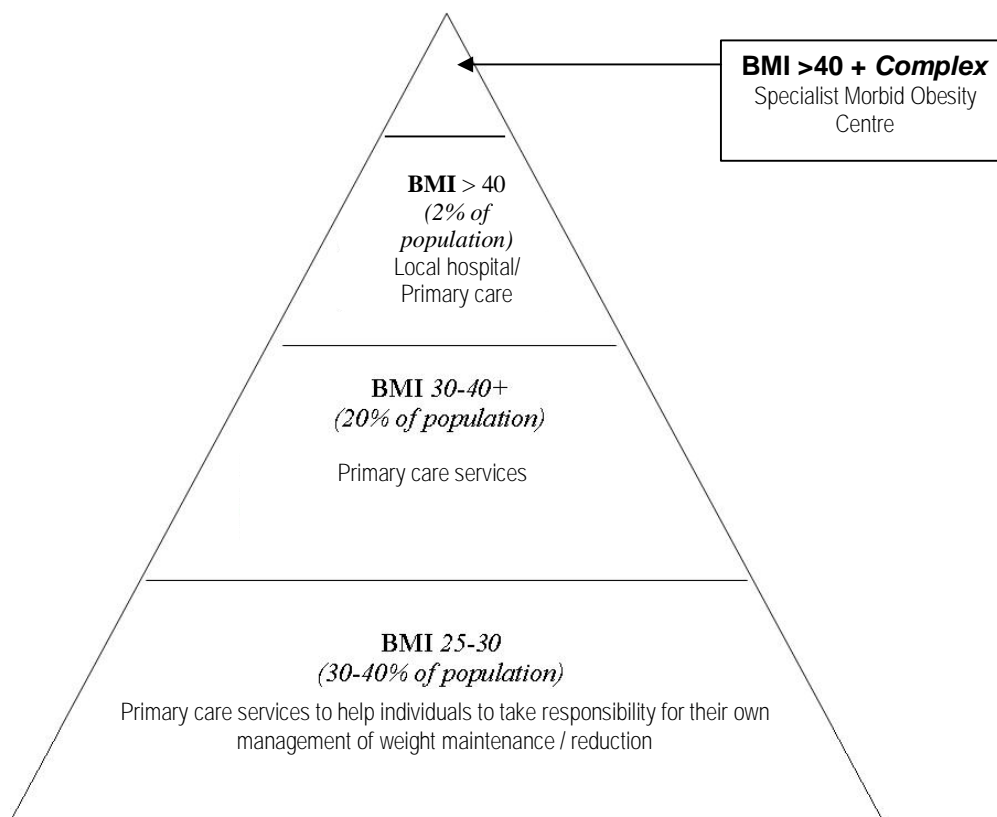
Definition No.1, Specialised Cancer Services (adult)  
Definition No.4, Specialised Services for Women's Health  
Definition No.8, Specialised Neurosciences Services (adult)  
Definition No.20, Medical Genetic Services (all ages)  
Definition No.22, Specialised Mental Health Services (all ages)  
Definition No.23, Specialised Services for Children  
Definition No.27, Specialised Endocrinology Services (adult)  
Definition No.29, Specialised Respiratory Services (adult)  
Definition No.34, Specialised Orthopaedic Services (adult)  
Definition No.36, Specialised Services for Metabolic Disorders (all ages)

## **4. Detailed description of specialised activity**

The majority of patients who have morbid obesity are likely to have lifelong weight control issues. Management of their obesity requires the co-ordination of care from many different healthcare providers and multi-disciplinary groups with varied expertise working together to provide patient care.

The diagram below shows the appropriate setting for provision of weight management services for patients with a BMI greater than 25:

- primary care services for people with a BMI of 25 - 30
- primary care services for people with a BMI of 30 - 40
- local hospital and primary care services for people with a BMI greater than 40
- specialised services for people with a BMI greater than 40 with complex needs.



Not all patients with a BMI greater than 40 require treatment at a specialist morbid obesity centre but surgery is only be undertaken at such centres. Generally patients with a BMI under 40 can be managed in primary care; those with a BMI greater than 40 (or greater than 35 with co-morbidity) are seen in primary care or at their local hospital, depending on local arrangements, leaving the specialist morbid obesity centres to concentrate on managing patients with a BMI over 40 who also have complex needs and/or require detailed assessment prior to surgery. This latter group amounts to approximately 120,000 adults and includes (i) all patients with a BMI over 50 and (ii) patients with a BMI over 40 who have the following (note: this is not an exhaustive list):

- endocrine conditions
- genetic conditions (rare causes of severe obesity)
- organ failure and are being considered for transplantation, e.g. renal, heart
- awaiting major surgery (with the attendant anaesthetic risk)
- women seeking infertility treatment.

For patients with a BMI over 35 and existing co-morbidities, referral for medical management to a specialist morbid obesity centre may be appropriate. For patients with a BMI under 35 there may be rare occasions when special factors (e.g. prior to renal transplant or fertility treatment) necessitate referral to a specialist centre.

People with a BMI under 25 are responsible for maintenance of their weight. Advice on healthy lifestyles is available to the total population from both primary and secondary care as appropriate.

#### **4.1 Initial assessment and identification of co-morbidities**

The initial clinical assessment, which may take place in primary care or the local hospital, establishes the history and distinguishes childhood onset obesity from that occurring later in life, either in relation to specific physiological ‘critical periods’ or illness.

A few obese patients have a rare syndrome associated with childhood-onset obesity, e.g. Lawrence-Moon-Biedl syndrome, Prader-Willi syndrome, leptin deficiency, and Melanocortin-4 receptor mutations. Patients with these conditions are already under the care of the relevant specialist and are referred directly to the specialised morbid obesity centre.

The rare occurrence of secondary obesity involving the hypothalamus can often be distinguished from ‘spontaneous’ or ‘simple’ obesity by a shorter duration of weight gain and specific symptoms related to endocrine disturbances, particularly a history of hypothalamic-pituitary disease or other brain injury (Daousi, C. et al. (2005) ‘Endocrine and neuroanatomic features associated with weight gain and obesity in adult patients with hypothalamic damage’ *American Journal of Medicine*, Vol. 118 (1) pp. 45-50). Other endocrine abnormalities include hypogonadism, hypothyroidism and hypothalamic obesity.

The assessment of overall health risk status identifies any co-morbidities which may include:

- established coronary heart disease
- other atherosclerotic diseases
- type 2 diabetes
- sleep apnoea and obesity hypoventilation syndrome
- gynaecological abnormalities including polycystic ovarian syndrome (PCOS) and infertility
- osteoarthritis
- gallstones
- stress incontinence
- upper gastro-oesophageal reflux
- cardiovascular risk factors including smoking, hypertension, LDL-cholesterol (greater than 4 mmol/l), HDL-cholesterol (less than 1 mmol/l), elevated fasting blood glucose (greater than 6 mmol/l), family history of premature coronary heart disease.

## **4.2 Local hospital and primary care services**

Local hospital and primary care services for morbid obesity are not specialised services. They include:

- initial assessment
- dietetic advice
- medical management
- lifestyle and exercise advice (exercise on prescription where this is available)
- management of associated conditions, e.g. infertility
- psychological support.

Patients referred to a specialist morbid obesity centre will have previously accessed services for obesity at a local hospital or primary care level in accordance with any agreed local pathways of care and referral criteria for an agreed duration of time, unless the patient meets the rapid assessment criteria (see above).

## **4.3 Specialised services**

The specialist centre provides an integrated specialist medical and surgical weight management programme which aims to achieve long-term weight loss or weight maintenance and includes:

- assessing the suitability of patient with intractable obesity for surgical treatment
- co-ordinating the management of critical complications associated with morbid obesity, e.g. sleep-related respiratory diseases, end-stage renal failure
- providing diagnosis and management advice for patients with rare related genetic conditions.

A care programme is drawn up by the specialist centre multi-disciplinary team to meet the needs and requirements of each individual patient; such a care programme includes all or some of the following:

- agreed weight loss/maintenance goal (in older patients especially, it may be more important to inhibit further weight gain than to pursue weight loss)
- dietary treatment (including very low calorie diets where appropriate)
- assessment and tailored intervention by a specialist clinical psychologist/psychiatrist
- agreed exercise and physical activity programme
- drug treatment where appropriate (but only after at least three months of supervised diet)
- surgical treatment (i.e. bariatric surgery)
- management of risk factors and co-morbidities.

### **Surgical management**

Surgical management should be undertaken in specialist centres treating adequate numbers of patients to minimise the risk of complications; evidence reviewed by NICE suggests that this is in the order of at least 100 patients per year. The general problems of surgery in the obese patient are considered by the multidisciplinary team including potential peri- and post-operative complications and any special anaesthetic requirements. There will be patients who meet the criteria for bariatric surgery and want it but who too high risk anaesthesia-wise.

Procedures, mainly aimed at restricting oral intake, have superseded jejunio-ileal bypass, the latter being associated with hepatic complications. The main procedures currently undertaken in England are:

- laparoscopic gastric banding
- laparoscopic or open Roux-en-Y gastric bypass
- laparoscopic or open sleeve gastrectomy (which may be a first stage for progression to Roux-en-Y bypass) or duodenal switch in very obese patients where a single stage procedure would be technically difficult or unsafe
- laparoscopic or open duodenal switch and / or bilio-pancreatic diversion.

Laparoscopic banding procedures allow subsequent adjustment of the degree of restriction and easier reversal and are generally associated with lower operative morbidity and shorter hospital stays. However they result in less weight loss, more weight re-gain, and a higher incidence of late complications than gastric bypass.

Radiologists provide specialist input in the surgical management and follow up of obese patients, particularly in the post operative period. Specialist endoscopy support is also

required as some patients may develop complications such as strictures or ulceration that require endoscopic assessment or treatment.

Following any surgical procedure all patients are reminded about appropriate diet and behaviour part of their care programme to encourage a change in lifestyle.

### **Post operative support and follow up services**

Surgical management and follow-up of patients by the specialist centre is between two and five years, dependent upon complications and patient needs. Thereafter, the specialist centre provides lifelong support, or enters into shared care arrangements with local weight management services.

Having obtained weight loss through medical or surgical intervention, it is difficult for many patients to maintain their lowered weight; this may be due to post-surgical medical problems or continuing complex needs. In these cases a care programme is agreed to support the individual so they can maintain their lowered weight. Published evidence suggests that a combination of sensible eating, physical activity, and re-enforcement of behavioural methods is the most successful practice for the longer term.

Many patients, having successfully achieved and maintained weight loss, experience psychological difficulties, social isolation and risk of infections as a result of significant excess skin and may need additional healthcare services.

### **4.4 Weight management services for children**

There is currently no agreed standard definition for morbid obesity in childhood. Even a definition of obesity in children is less straightforward than the calculation of BMI used to determine adult obesity. The International Obesity Taskforce (IOTF) classification of UK childhood obesity is a BMI standard deviation (BMI SDS)  $\geq 2.25$  for girls and  $\geq 2.37$  for boys. However, it has been argued that this significantly under-estimates obesity prevalence and a cut-off for obesity at the 95% percentile has been proposed. In reality, given the scarcity of obesity services tailored for children, both local hospital MO and specialist centre MO services will probably have to set higher limits than either of the above two definitions to ensure they can manage referrals.

Some experts estimate the prevalence of childhood obesity in the U.K will reach 1.3 million by 2010. A significant proportion of obese children grow up to become obese adults with increasing risk applying as obesity progresses from childhood into adolescence suggesting that the introduction of early, simple interventions before secondary school admission may be of greatest benefit in addressing the broader issue of childhood obesity in general. Currently provision of weight management programmes for children at primary care, local hospital or specialist centre levels is variable across the country.

Around 20-30% of obese children referred to a local hospital paediatric services are likely to have complex additional needs such as physical or learning disabilities, syndromic obesity such as Prader-Willi syndrome and of these under 3% will have an identifiable monogenic disorder such as mutations in melanocortin receptor MC4R. These children are likely to need assessment by a specialist paediatric morbid obesity centre as do those in whom excess weight for their age is not associated with a commensurate height (above the 50th percentile)

in whom a thorough endocrine assessment is warranted. Children with obesity related co-morbidities such as type 2 diabetes, obstructive sleep apnoea and non-alcoholic steatohepatitis are also referred to a specialist morbid obesity centre. These conditions are not always dictated solely by the level of obesity but additional factors such as family history.

The specialist paediatric morbid obesity centre provides all aspects of obesity care including lifestyle based interventions, calorie restriction and pharmacotherapy. Surgical intervention unusual (NICE guidelines state: ‘Surgical intervention is not generally recommended in children and young people’) and will generally only be offered in exceptional circumstances and only once the individual patient has reached sexual maturity. There are currently only 2 or 3 specialist centres in England providing a paediatric surgical service. Drug treatment for children is used off-licence and is prescribed only through a specialist centre.

As the majority of patients who have morbid obesity are likely to have lifelong weight control issues, the provision of transitional care from paediatric to adult services is important.

## **5. Identifying and costing activity**

### **5.1 Existing currencies:**

- out-patient attendances
- out-patient procedures
- non face to face out-patient appointments
- planned same day admissions (day cases)
- in-patients
- rehabilitation (acute phase)
- HRG codes.

### **5.2 Existing classification systems:**

- ICD codes

See ‘Obesity ICD’ worksheet in ‘SSNDS Definition No.35 Morbid Obesity Services (all ages) website codes’ spreadsheet.

Note: The ICD10 diagnostic codes in this worksheet identify morbid obesity conditions. Please note that both the specialist morbid obesity centre and the local hospital may use these diagnostic codes and hence the codes cannot always be assumed to specifically identify specialised morbid obesity services.

- OPCS intervention codes

See ‘Obesity OPCS’ worksheet in ‘SSNDS Definition No.35 Morbid Obesity Services (all ages) website codes’ spreadsheet.

Note: the OPCS codes in this worksheet must be accompanied by ICD10 E66.0-E66.9 codes to distinguish surgery for morbid obesity conditions from surgery for other conditions.

### **5.3 Costing activity:**

*Please refer to the latest Department of Health Guidance on Payment by Results for up to date information on national tariffs and activity included / excluded from tariff.*

*Please note that not all the Payment by Results inclusions and exclusions listed below are specialised activity, but they are included here for completeness.*

(i) In scope of 2009/10 Payment by Results and has national tariffs:

- upper gastrointestinal surgery first/follow-up and single /multi-professional out-patient attendances (Treatment Function Code: 106)
- paediatric gastroenterology first/follow-up and single /multi-professional out-patient attendances (Treatment Function Code: 251)
- endocrinology first/follow-up and single /multi-professional out-patient attendances (Treatment Function Codes: 252 and 302)
- diabetic medicine first/follow-up and single /multi-professional out-patient attendances (Treatment Function Code: 307)
- out-patient procedures - same tariff as planned same day admissions but NON MANDATORY tariff only
- non face to face out-patient appointments - but NON MANDATORY tariff only
- planned same day admissions (day cases) - see PbR list of HRG inclusions
- in-patients - see PbR list of HRG inclusions
- rehabilitation (acute phase) – but NON MANDATORY tariff only.

(ii) Excluded from 2009/10 Payment by Results and thus requires a locally negotiated tariff:

- paediatric gastrointestinal out-patient attendances (Treatment Function Code: 213)
- dietetics out-patient attendances (Treatment Function Code: 654)
- clinical psychology out-patient attendances (Treatment Function Code: 656)
- eating disorders out-patient attendances (Treatment Function Code: 720)
- gastric bands (devices only)
- high cost drugs
- see specific HRG exclusions.

### **5.4 Outstanding issues raised regarding currencies and classification systems:**

Most activity in specialised morbid obesity services involves a package of medical and surgical care supplied by multi-disciplinary teams over a period of months or years. There are no nationally agreed and costed packages of care for morbid obesity.

Specific physician-led clinics for morbid obesity are becoming more common. However, there is no Treatment Function Code as such and this out-patient activity may be classified as endocrinology out-patient attendances (Treatment Function Code: 302 and 252) or diabetic medicine out-patient attendances (Treatment Function Code: 302). Currencies will need to be developed for specialist elements of the programme, e.g. psychology, assessment and behaviour therapy, supervision of exercise by physiotherapists, occupational therapy assessments and dietetic counselling.

Morbidly obese people have specialist equipment requirements, carrying high capital charge costs, i.e. special beds, theatre tables. HRGs and the creation of national tariffs will need to

take account of this fact. Currently most MRI scanners cannot be used by many morbidly obese patients. The establishment of new services will entail expenditure on appropriate equipment.

## **6. National standards and guidelines**

### **Available from Department of Health – [www.dh.gov.uk](http://www.dh.gov.uk)**

- Department of Health (2008) ‘Healthy weight, healthy lives: A toolkit for developing strategies’
- Department of Health (2008) ‘Healthy weight, healthy lives: A cross-government strategy for England’

### **Available from National Institute of Health and Clinical Excellence – [www.nice.org.uk](http://www.nice.org.uk)**

- NICE (2006) ‘Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children. NICE Clinical Guideline CG 43’
- NICE (2006) ‘Commissioning guide: bariatric surgical service for the treatment of people with severe obesity’

#### **Endorsements**

British Association of Paediatric Surgeons  
British Obesity and Metabolic Surgery Society