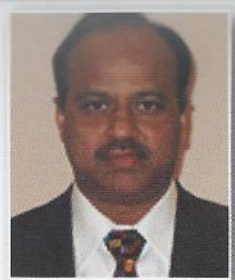


Obesity

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The absolute level of obesity is very high in England, along with the rest of the UK, ranks as one of the most obese nations in Europe with few signs yet of a sustained decline. In 2012, just under a quarter of men (24%) and about a quarter of women (25%) in England were classed as obese (BMI 30 kg/m² or more). A further 42% of men and 32% of women were classed as overweight (BMI 25 kg/m² to 29.9 kg/m²). Overweight and obesity increase the risk of various diseases and conditions, including coronary heart disease, type 2 diabetes, stroke and some cancers. It is estimated that life expectancy is reduced by an average of 3 years for those with a BMI of 30 to 35 kg/m² and 8 to 10 years for those with a BMI of 40 to 50 kg/m². There are approximately 32,300 overweight and 18,200 obese adults per 100,000 population.

THE WORLD IS GETTING FATTER
250' MILLION PEOPLE in 1980
904' MILLION PEOPLE in 2008
"Number of people who are either overweight or obese"

HOW DO I KNOW WHETHER I AM OVERWEIGHT?
Calculate your body mass index (BMI) > (BMI = weight (kg) / height² (m))
Using this formula:

| | | | | |
|-------------|-------------|------------|---------|----------------|
| Underweight | Normal | Overweight | Obesity | Severe Obesity |
| < 18.5 | 18.5 - 24.9 | 25 - 29.9 | > 30 | > 35 |

OBESITY KILLS!
7 common diseases due to obesity:
• Arthritis • Cancer • Infertility • Heart Diseases
• Back Pain • Diabetes • Stroke

ABC TO OBESITY PREVENTION
SIMPLE RULES TO STAY IN SHAPE

A Adopt New Healthy Habits
Risky habits: Bike to work, Drive to work, Fast Food, Wash TV
S: Balanced Diet, Swim

B Balance Your Calorie Intake
Food Intake: Food, Beverages, CALORIES IN
Physical Activity: CALORIES OUT

C Control Your Weight Gain
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In 2013, approximately 69,000 adults in England were referred to Weight Watchers and Slimming World under the NHS referral schemes (1). According to Jolly et al. (2011) 71% of adults who attended a weight management programme opted for a commercial or not-for-profit programme. Inflating the figure of 69,000 to account for the 29% of people who attend other types of weight management programmes gives a total of approximately 97,000 adults in England (2). This is equivalent to around 0.3% of overweight or obese adults, or 170 adults per 100,000 population (3).

The guideline recommends that overweight or obese adults eligible for referral to lifestyle weight management are identified by a health practitioner (such as a GP or practice nurse) when the opportunity arises.

Medical Complications of Obesity

- Pulmonary disease:** abnormal function, obstructive sleep apnea, hypoventilation syndrome
- Idiopathic intracranial hypertension**
- Stroke**
- Cataracts**
- Coronary heart disease**
- Diabetes**
- Dyslipidaemia**
- Hypertension**
- Severe pancreatitis**
- Cancer:** breast, uterus, cervix, colon, esophagus, pancreas, kidney, prostate
- Phlebitis:** venous stasis
- Nonalcoholic fatty liver disease:** steatosis, steatohepatitis, cirrhosis
- Gall bladder disease**
- Gynecologic abnormalities:** abnormal menses, infertility, polycystic ovarian syndrome
- Osteoarthritis**
- Skin**
- Gout**

Benefits and Savings

If improvements to BMI are achieved and maintained this could reduce the prevalence of conditions associated with obesity. This includes coronary heart disease, type 2 diabetes, stroke, hypertension, osteoarthritis and some cancers. In turn, this could lead to significant savings for clinical commissioning groups and local authorities.

There is good evidence to suggest that moderate weight loss (5 to 10% of initial body weight) is beneficial to health (McTigue et al. 2003). A study by Hamman et al. (2006) found that, on average, there was a 16% reduction in the risk of diabetes for each kilogram of weight lost (4).

Diabetes cost the NHS approximately £23.7 billion in the UK in 2010/11 (5). Reduction in diabetes will reduce the need for diabetes drugs and provide associated savings for the NHS.

If lifestyle interventions help control and prevent obesity in adults it will avoid referrals for more expensive clinical treatment, such as for specialist weight management services (tier 3) and bariatric surgery (tier 4).

| Classification | BMI (kg/m ²) |
|----------------|--------------------------|
| Healthy weight | 18.5–24.9 |
| Overweight | 25–29.9 |
| Obesity I | 30–34.9 |
| Obesity II | 35–39.9 |
| Obesity III | 40 or more |

Figure 1: Obesity classification depending on BMI.

The 2007 Foresight report estimated that, in 2050, the costs attributable to people being obese or overweight would be £9.7 billion per year (6). Preventing a 1% increase in the prevalence of people who are overweight and obese could lead to combined savings of around £97 million per year for the NHS and local authorities.

Define the degree of overweight or obesity in adults using the following table (Fig.2)

Interpret BMI with caution in highly muscular adults, as it may be a less accurate measure of adiposity in this group. Some other population groups, such as people of Asian family origin and older people, have comorbidity risk factors that are of concern at different BMIs (lower for adults of an Asian family origin and higher for older people).

| BMI Classification | Waist Circumference | | |
|--------------------|---------------------|----------------|----------------|
| | Low | High | Very High |
| Overweight | No increased risk | Increased risk | High risk |
| Obesity I | Increased risk | High risk | Very high risk |

For men, waist circumference of less than 94 cm is low, 94–102 cm is high and more than 102 cm is very high.
For women, waist circumference of less than 80 cm is low, 80–88 cm is high and more than 88 cm is very high

Figure 2: Base assessment of the health risks associated with being overweight or obese in adults on BMI and waist circumference.

Give adults information about their classification of clinical obesity and the impact this has on risk factors for developing other long-term health problems. The level of intervention should be higher for patients with comorbidities, regardless of their waist circumference. Adjust the approach as needed, depending on the person's clinical need and potential to benefit from losing weight.

Consider referral to tier 3 services if:

- The underlying causes of being overweight or obese need to be assessed
- The person has complex disease states or needs that cannot be managed adequately in tier 2 (for example, the additional support needs of people with learning disabilities)
- Conventional treatment has been unsuccessful
- Drug treatment is being considered for a person with a BMI of more than 50 kg/m²
- Specialist interventions (such as a very-low-calorie diet) may be needed if surgery is being considered

NHS England's published clinical commissioning policy on the specialised management of severe and complex obesity outlines NHS funded routine access to the obesity services falling within the direct commissioning responsibilities of NHS

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| BMI Classification | Waist Circumference | | | Comorbidities present |
|--------------------|--|------|-----------|-----------------------|
| | Low | High | Very High | |
| Overweight | 1 | 2 | 2 | 3 |
| Obesity I | 2 | 2 | 2 | 3 |
| Obesity II | 3 | 3 | 3 | 4 |
| Obesity III | 4 | 4 | 4 | 4 |
| Tier 1 | General advice on healthy weight and lifestyle | | | |
| Tier 2 | Diet and physical activity | | | |
| Tier 3 | Diet and physical activity; consider drugs | | | |
| Tier 4 | Diet and physical activity; consider drugs; consider surgery | | | |

Figure 3: Base the level of intervention to discuss with the patient initially

England. Reflecting the principles of the NICE guidance, the policy recommends intensive and multidisciplinary assessment and support for individuals to enable them to have trialled and exhausted all non-invasive treatment options prior to potentially higher risk surgical approaches.

Where progress to tier 4 bariatric surgery is required the policy states that patients should undergo a service based weight loss programme (non-surgical tier 3/4), for a duration of 12 – 24 months, the minimum acceptable period being six months. The policy also recognises that patients completing tier 3 support who pro-actively manage their diet and exercise are more likely to subsequently succeed in the dietary control required post-surgery, and therefore maximise the outcomes of their surgery.

It is evident that the obesity care pathway has an important role within the whole system approach to tackling obesity, as outlined in the Foresight report. This is further endorsed in the Department of Health's Call to Action and the recent Public Health England Advisory Board paper on Obesity and Early Approaches.

| Tiers | Description | Location | Responsibility Agency | Criteria | Service Users ? |
|-------|----------------------|----------------------|-----------------------|--------------|--------------------------------------|
| 1 | Behavioural Services | Brief advice limited | Various Practice | Activity NHS | Determined Pathway Exit from pathway |

| Tiers | Description | Location | Commissioning Lead (Primary Responsibility Agency) | Referral Criteria | Patient Journey What are the characteristics of the service users? |
|---------------------------|--|--------------|--|-------------------|--|
| MDT | Specialist dietitian, psychologist, psychiatrist, and physiotherapist. | Care setting | and NHS | Obese | Engagement in tier 3 does not automatically. |
| Non-surgical and post-op. | | | Surgery | Obese | (post-op. support) |

Figure 4: The table below describes in detail about the 4 Tiers services in detail

Relate BMI measurement in children and young people to the UK 1990 BMI charts, to give age- and gender-specific information. Tailored clinical intervention should be considered for children with a BMI at or above the 91st centile, depending on the needs of the individual child and family.

Orlistat may be used to maintain or reduce weight before surgery for people who have been recommended surgery as a first-line option, if it is considered that the waiting time for surgery is excessive.

Bariatric surgery is the option of choice (instead of lifestyle interventions or drug treatment) for adults with a BMI of more than 50 kg/m² when other interventions have not been effective.

Referral for Surgery

Bariatric surgery is a treatment option for people with obesity if all of the following criteria are fulfilled:

- They have a BMI of 40 kg/m² or more, or between 35 kg/m² and 40 kg/m² and other significant disease (for example, type 2 diabetes or high blood pressure) that could be improved if they lost weight. For Asians the BMI cut off point is 2.5 point less as per International Federation of Surgical Obesity.
- All appropriate non-surgical measures have been tried but the person has not achieved or maintained adequate, clinically beneficial weight loss.
- The person has been receiving or will receive intensive management in a tier 3 service.
- The person is generally fit for anaesthesia and surgery.
- The person commits to the need for long-term follow-up.
- Bariatric surgery for people with recent-onset type 2 diabetes (guidelines 2014)

Offer an expedited assessment for bariatric surgery to people with a BMI of 35 or over who have recent-onset type 2 diabetes as long as they are also receiving or will receive assessment in a tier 3 service (or equivalent).

Follow-up care

Offer people who have had bariatric surgery a follow-up care package for a minimum of 2 years within the bariatric service. This should include:

- Monitoring nutritional intake (including protein and vitamins) and mineral deficiencies
- Monitoring for comorbidities
- Medication review
- Dietary and nutritional assessment, advice and support
- Physical activity advice and support
- Psychological support tailored to the individual
- Information about professionally-led or peer-support groups.

After discharge from bariatric surgery service follow-up, ensure that all people are offered at least annual monitoring of

nutritional status and appropriate supplementation according to need following bariatric surgery, as part of a shared care model of chronic disease management.

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