Obesity: Identification, assessment and management of overweight and obesity in children, young people and adults

NICE guideline

Draft for consultation, July 2014

If you wish to comment on this version of the guideline, please be aware that all the supporting information and evidence is contained in the full version.

'If you wish to comment on this version of the guideline, please be aware that all the supporting information and evidence for the 2014 recommendations is contained in the full version of the 2014 guideline. Evidence for the 2006 recommendations is in Appendix M of the full version of the 2014 guideline.'

Contents

Introduction

Obesity (NICE clinical guideline 43) defines different weight classes based on a person's body mass index (BMI) as follows:

- healthy weight: 18.5–24.9 kg/m^2
- overweight: 25–29.9 kg/m^2
- obesity I: 30–34.9 kg/m^2
- obesity II: 35–39.9 kg/m^2
- obesity III: 40 kg/m^2 or more.

The use of lower BMI thresholds (23kg/m2 to indicate increased risk and 27.5kg/m2 to indicate high risk) to trigger action to reduce the risk of conditions such as type 2 diabetes, has been recommended for black African, African-Caribbean and Asian (South Asian and Chinese) groups.

Overweight and obesity is a global problem. The World Health Organization (WHO) predicts that by 2015 approximately 2.3 billion adults worldwide will be overweight, and more than 700 million will be obese.

Obesity is directly linked to a number of different illnesses including type 2 diabetes, hypertension, gallstones and gastro-oesophageal reflux disease, as well as psychological and psychiatric morbidities. The Health and Social Care Information Centre reported that in 2011/12 there were 11,740 inpatient admissions to hospitals in England with a primary diagnosis of obesity: 3 times as many as in 2006/07. There were 3 times as many women admitted as men.

In the UK obesity rates nearly doubled between 1993 and 2011, from 13% to 24% in men and from 16% to 26% in women. In 2011, about 3 in 10 children aged 2–15 years were overweight or obese.

Ethnic differences exist in the prevalence of obesity and the related risk of ill health. For example, compared with the general population, the prevalence of obesity is lower in men of Bangladeshi and Chinese family origin, whereas it is

higher for women of African, Caribbean and Pakistani family origin (as reported by the National Obesity Observatory in 2011).

The cost of being overweight and obese to society and the economy was estimated to be almost £16 billion in 2007 (over 1% of gross domestic product). The cost could increase to just under £50 billion in 2050 if obesity rates continue to rise, according to projections from the Department of Health. A simulated model reported in the Lancet predicted that there would be 11 million more obese adults in the UK by 2030, with combined medical costs for treatment of associated diseases estimated to increase by up to £2 billion per year.

Obesity (NICE clinical guideline 43) made recommendations for providing care on preventing and managing overweight and obesity. The guideline aimed to ensure that obesity became a priority at both strategic and delivery levels. In 2013, however, the Royal College of Physicians report 'Action on obesity: comprehensive care for all' identified that care provision remained varied around the UK and that the models used to manage weight differed. It also reported that access to surgery for obesity in some areas of the UK did not reflect the recommendations in NICE's obesity guideline.

The evidence base for very-low-calorie diets has expanded since the publication of NICE's obesity guideline in 2006, and their use has increased. However, these interventions are not clearly defined, and there are concerns about safety, adherence and the sustainability of weight loss.

The NHS England published Joined up clinical pathways for obesity in March 2014, identifying commissioning arrangements for complex and specialised bariatric surgery. New commissioning guidance is likely to follow from key providers.

Obesity surgery (also known as bariatric surgery) includes gastric banding, gastric bypass, sleeve gastrectomy and duodenal switch. It is usually undertaken laparoscopically. NICE clinical guideline 43guideline recommended that surgery should be an option in certain circumstances. The National Obesity Observatory reports a rise in bariatric surgery from around

470 in 2003/04 to over 6500 in 2009/10. The National Bariatric Surgery Register's First Registry Report to March 2010 reported that more than 7000 of these operations were carried out between April 2008 and March 2010.

The National Confidential Enquiry into Patient Outcome and Death review of the care of people who underwent bariatric surgery identified in 2012 that there should be a greater emphasis on support and follow up for people having bariatric surgery. The report also noted that clear post-operative dietary advice should be provided to people because of the potential for significant metabolic change (such as vitamin B12 and iron deficiency) after surgery.

It has been suggested that resolution of type 2 diabetes may be an additional outcome of surgical treatment of morbid obesity. It is estimated that about 60% of patients with type 2 diabetes achieve remission after Roux-en-Y gastric bypass surgery. It has also been suggested that diabetes-related morbidity and mortality is significantly lower after bariatric surgery and that the improvement in diabetes control is long-lasting.

NICE’s clinical guideline on obesity was reviewed in 2011, leading to this update. This guideline addresses three main areas: follow-up care packages after bariatric surgery; the role of bariatric surgery in the management of recent onset type 2 diabetes; and very-low-calorie diets including their effectiveness, and safety and effective management strategies for maintaining weight loss after such diets.

NICE has a suite of guidance on obesity including the following guidance: PH45 BMI and waist circumference – black, Asian and ethnic groups (July 2013), PH47 Managing overweight and obesity among children and young people (October 2013), PH44 Overweight and obese adults – lifestyle management (May 2014), Maintaining a healthy weight and preventing excess weight gain among children and adults (due to be published in Feb 2015). This guidance will replace clinical section 1.2 in CG43, we will advise stakeholders regarding signposting of the remaining public health

recommendation in Section 1.1., not updated at publication. Drug recommendations

The guideline assumes that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

This guideline recommends some drugs for indications for which they do not have a UK marketing authorisation at the date of publication, if there is good evidence to support that use. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or those with authority to give consent on their behalf) should provide informed consent, which should be documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information. Where recommendations have been made for the use of drugs outside their licensed indications ('off-label use'), these drugs are marked with a footnote in the recommendations.

Patient-centred care

This guideline offers best practice advice on the care of adults and children who are overweight or obese.

Patients and healthcare professionals have rights and responsibilities as set out in the NHS Constitution for England; all NICE guidance is written to reflect these. Treatment and care should take into account individual needs and preferences. Patients should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If the patient is under 16, their family or carers should also be given information and support to help the child or young person to make decisions about their treatment. Healthcare professionals should follow the Department of Health's advice on consent (or, in Wales, advice on consent from the Welsh Government). If someone does not have capacity to make decisions, healthcare professionals should follow the code of practice that accompanies the Mental Capacity Act and the supplementary code of practice on deprivation of liberty safeguards.

NICE has produced guidance on the components of good patient experience in adult NHS services. All healthcare professionals should follow the recommendations in Patient experience in adult NHS services.

NICE has also produced guidance on the components of good service user experience. All healthcare professionals and social care practitioners working with people using adult NHS mental health services should follow the recommendations in Service user experience in adult mental health.

If a young person is moving between paediatric and adult services, care should be planned and managed according to the best practice guidance described in the Department of Health's Transition: getting it right for young people.

Adult and paediatric healthcare teams should work jointly to provide assessment and services to young people who are overweight or obese. Support and management should be reviewed throughout the transition

process, and there should be clarity about who is the lead clinician to ensure continuity of care.

Strength of recommendations

Some recommendations can be made with more certainty than others. The Guideline Development Group makes a recommendation based on the trade-off between the benefits and harms of an intervention, taking into account the quality of the underpinning evidence. For some interventions, the Guideline Development Group is confident that, given the information it has looked at, most patients would choose the intervention. The wording used in the recommendations in this guideline denotes the certainty with which the recommendation is made (the strength of the recommendation).

For all recommendations, NICE expects that there is discussion with the patient about the risks and benefits of the interventions, and their values and preferences. This discussion aims to help them to reach a fully informed decision (see also 'Patient-centred care').

Interventions that must (or must not) be used

We usually use 'must' or 'must not' only if there is a legal duty to apply the recommendation. Occasionally we use 'must' (or 'must not') if the consequences of not following the recommendation could be extremely serious or potentially life threatening.

Interventions that should (or should not) be used – a 'strong' recommendation

We use 'offer' (and similar words such as 'refer' or 'advise') when we are confident that, for the vast majority of patients, an intervention will do more good than harm, and be cost effective. We use similar forms of words (for example, 'Do not offer…') when we are confident that an intervention will not be of benefit for most patients.

Interventions that could be used

We use 'consider' when we are confident that an intervention will do more good than harm for most patients, and be cost effective, but other options may be similarly cost effective. The choice of intervention, and whether or not to have the intervention at all, is more likely to depend on the patient's values

and preferences than for a strong recommendation, and so the healthcare professional should spend more time considering and discussing the options with the patient.

Recommendation wording in guideline updates

NICE began using this approach to denote the strength of recommendations in guidelines that started development after publication of the 2009 version of 'The guidelines manual' (January 2009). This does not apply to any recommendations shaded in grey and ending [2006] (see 'Update information' box below for details about how recommendations are labelled). In particular, for recommendations labelled [2006], the word 'consider' may not necessarily be used to denote the strength of the recommendation.

Update information

This guidance is an update of NICE guideline 43 'Obesity' (published 2006) and will replace the clinical recommendations in it.

Recommendations with an evidence review

New recommendations have been added for the management of people who are overweight or obese.

You are invited to comment on the new and updated recommendations in this guideline. These are marked as:

- **[new 2014]** if the evidence has been reviewed and the recommendation has been added or updated
- **[2014]** if the evidence has been reviewed but no change has been made to the recommended action.

You are also invited to comment on recommendations that NICE proposes to delete from the 2006 guideline, because either the evidence has been reviewed and the recommendations have been updated, or NICE has updated other relevant guidance and has replaced the original recommendations. Appendix A sets out these recommendations and includes details of replacement recommendations. Where there is no replacement recommendation, an explanation for the proposed deletion is given.

Recommendations without an evidence review

NICE is piloting a new process for identifying and labelling changes to recommendations that have not undergone an evidence review as part of the update. In this guideline:

- minor editorial changes that do not affect the content of the recommendation are not indicated in the text
- the definition of an 'amended' recommendation has been expanded.

Please see the explanation below.

Where recommendations are shaded in grey and end **[2006]**, the evidence has not been reviewed since the original guideline. We will not be able to accept comments on these recommendations.

Where recommendations are shaded in grey and end **[2006, amended 2014]**, the evidence has not been reviewed but changes have been made to the recommendation wording that change the meaning (for example, because of equalities duties or a change in the availability of drugs, or incorporated guidance has been updated). Recommendations are also labelled **[2006, amended 2014]** if NICE has made editorial changes to the original wording to clarify the action to be taken. These changes are marked with yellow highlighting, and explanations of the reasons for the changes are given in appendix A for information. We will not routinely accept comments on these recommendations but will respond if particular concerns are raised around the proposed amendments.

The original NICE guideline and supporting documents are available here.

1 Recommendations

The following guidance is based on the best available evidence. The full guideline [hyperlink to be added for final publication] gives details of the methods and the evidence used to develop the guidance.

1.1 Generic principles of care

Adults and children

1.1.1 Offer regular, non-discriminatory long-term follow up by a trained professional. Ensure continuity of care in the multidisciplinary team through good record keeping. **[2006]**

Adults

1.1.2 Equip specialist settings for treating people who are severely obese with, for example, special seating and adequate weighing and monitoring equipment. Ensure hospitals have access to specialist equipment – such as larger scanners and beds – when providing general care for people who are severely obese. **[2006]**

1.1.3 Discuss the choice of interventions for weight management with the person. The choice of intervention should be agreed with the person. **[2006]**

1.1.4 Tailor the components of the planned weight management programme to the person's preferences, initial fitness, health status and lifestyle. **[2006]**

Children

1.1.5 Coordinate the care of children and young people around their individual and family needs. Comply with national core standards as defined in A Call to Action on Obesity in England.[1] **[2006, amended 2014]**

1.1.6 Aim to create a supportive environment[2] that helps a child who is overweight or who has obesity, and their family, make lifestyle changes. **[2006, amended 2014]**

[1] Recommendations on the management of overweight and obesity in children and young people can be found in 'Managing overweight and obesity among children and young people: lifestyle weight management services' (NICE public health guideline 47).
[2] The GDG noted that 'environment' could include settings other than the home, for example, schools.

1.1.7 Make decisions about the care of a child who is overweight or has obesity (including assessment and agreeing goals and actions) together with the child and family. Tailor interventions to the needs and preferences of the child and the family. **[2006]**

1.1.8 Ensure that interventions for children who are overweight or have obesity address lifestyle within the family and in social settings. **[2006]**

1.1.9 Encourage parents (or carers) to take main responsibility for lifestyle changes in children who are overweight or obese, especially if they are younger than 12 years. Take into account the age and maturity of the child, and the preferences of the child and the parents. **[2006]**

1.2 Identification and classification of overweight and obesity

1.2.1 Use clinical judgement to decide when to measure a person's height and weight. Opportunities include registration with a general practice, consultation for related conditions (such as type 2 diabetes and cardiovascular disease) and other routine health checks. **[2006]**

Measures of overweight and obesity

1.2.2 Use body mass index (BMI) as a practical estimate of adiposity in adults. Interpret BMI with caution because it is not a direct measure of adiposity. **[2006, amended 2014]**

1.2.3 Think about using waist circumference, in addition to BMI, in people with a BMI less than 35kg/m^2.[3] **[2006, amended 2014]**

Children

[3] Further information on the use of BMI and waist circumference can be found in 'BMI and waist circumference – black, Asian and minority ethnic groups' (NICE public health guideline 46).

1.2.4 Use BMI (adjusted for age and gender[4]) as a practical estimate of adiposity in children and young people. Interpret BMI with caution because it is not a direct measure of adiposity. **[2006, amended 2014]**

1.2.5 Waist circumference is not recommended as a routine measure. Use it to give additional information on the risk of developing other long-term health problems. **[2006]**

Adults and children

1.2.6 Do not use bioimpedance as a substitute for BMI as a measure of general adiposity. **[2006]**

Classification of overweight and obesity

Adults

1.2.7 Define the degree of overweight or obesity in adults using the following table:

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

1.2.8 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 Asians and older people, have comorbidity risk factors that are of concern at different BMIs (lower for Asian adults and higher for older people). Use clinical judgement when considering risk factors in these groups, even in people not classified as overweight or obese, using the classification in recommendation 1.2.7. **[2006]**

[4] Where available, BMI z-scores may be used to calculate BMI in children and young people

1.2.9 Base assessment of the health risks associated with being overweight or obese in adults on BMI and waist circumference as follows:

BMI classification	**Waist circumference**		
	Low	**High**	**Very high**
Overweight	No increased risk	Increased risk	High risk
Obesity 1	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			

[2006]

1.2.10 Give adults information about their classification of clinical obesity and the impact this has on risk factors for developing other long-term health problems. **[2006]**

1.2.11 Base the level of intervention to discuss with the patient initially as follows:

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

1	General advice on healthy weight and lifestyle
2	Diet and physical activity
3	Diet and physical activity; consider drugs
4	Diet and physical activity; consider drugs; consider surgery

The level of intervention should be higher for patients with comorbidities (see section 1.3 for details), regardless of their waist

circumference. Adjust the approach as needed, depending on the person's clinical need and potential to benefit from losing weight. **[2006]**

Children

1.2.12 Relate BMI measurement in children and young people to the UK 1990 BMI charts[5] to give age- and gender-specific information.[6] **[2006, amended 2014]**

1.2.13 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. **[2006]**

1.2.14 Assessment of comorbidity should be considered for children with a BMI at or above the 98th centile. **[2006]**

1.3 Assessment

Adults and children

1.3.1 Make an initial assessment (see recommendations 1.3.6 and 1.3.8), then use clinical judgement to investigate comorbidities and other factors to an appropriate level of detail, depending on the person, the timing of the assessment, the degree of overweight or obesity, and the results of previous assessments. **[2006]**

1.3.2 Manage comorbidities when they are identified; do not wait until the person has lost weight. **[2006]**

1.3.3 Offer people who are not yet ready to change the chance to return for further consultations when they are ready to discuss their weight

[5] The Guideline Development Group considered that there was a lack of evidence to support specific cut-offs in children. However, the recommended pragmatic indicators for action are the 91st and 98th centiles (overweight and obese, respectively). Since the 2006 guideline was published, more recent growth charts have become available – see Making a referral to a programme from healthcare services).

[6] Where available, BMI z-scores may be used to calculate BMI in children and young people.

again and willing or able to make lifestyle changes. Give them information on the benefits of losing weight, healthy eating and increased physical activity. **[2006]**

1.3.4 Recognise that surprise, anger, denial or disbelief about their health situation may diminish people's ability or willingness to change. Stress that obesity is a clinical term with specific health implications, rather than a question of how people look; this may reduce any negative feelings.

During the consultation:

- Assess the person's view of their weight and the diagnosis, and possible reasons for weight gain.
- Explore eating patterns and physical activity levels.
- Explore any beliefs about eating, physical activity and weight gain that are unhelpful if the person wants to lose weight.
- Be aware that people from certain ethnic and socioeconomic backgrounds may be at greater risk of obesity, and may have different beliefs about what is a healthy weight and different attitudes towards weight management.
- Find out what the person has already tried and how successful this has been, and what they learned from the experience.
- Assess the person's readiness to adopt changes.
  Assess the person's confidence in making changes. **[2006]**

1.3.5 Give people and their families and/or carers information on the reasons for tests, how the tests are done, and their results and meaning. If necessary, offer another consultation to fully explore the options for treatment or discuss test results. **[2006, amended 2014]**

Adults

1.3.6 Take measurements (see recommendations in section 1.2) to determine degree of overweight or obesity and discuss the implications of the person's weight. Then, assess:

- any presenting symptoms
- any underlying causes of being overweight or obese
- eating behaviours
- any comorbidities (for example type 2 diabetes, hypertension, cardiovascular disease, osteoarthritis, dyslipidaemia and sleep apnoea)
- any risk factors (assess using lipid profile preferably done when fasting, blood pressure measurement and HbA_{1c} measurement)
- the person's lifestyle (diet and physical activity)
- any psychosocial distress
- any environmental, social and family factors, including family history of overweight and obesity and comorbidities
- the person's willingness and motivation to change lifestyle
- the potential of weight loss to improve health
- any psychological problems
- any medical problems and medication
- the role of family and paid carers in supporting individuals with learning disabilities to make lifestyle changes. **[2006, amended 2014]**

1.3.7 Consider referral to tier 3 services[7] if:

- the underlying causes of being overweight or obese need to be assessed
- the person has complex disease states and/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 more than 50 kg/m^2
- specialist interventions (such as a very-low-calorie diet) may be needed
- surgery is being considered. **[2006, amended 2014]**

Children

1.3.8 Take measurements to determine degree of overweight or obesity and raise the issue of weight with the child and family, then assess:

- presenting symptoms and underlying causes of being overweight or obese
- willingness and motivation to change
- comorbidities (such as hypertension, hyperinsulinaemia, dyslipidaemia, type 2 diabetes, psychosocial dysfunction and exacerbation of conditions such as asthma)
- any risk factors (assess using lipid profile preferably done when fasting, blood pressure measurement and HbA_{1c} measurement)
- psychosocial distress, such as low self-esteem, teasing and bullying
- family history of being overweight or obese and comorbidities
- the child and family's willingness and motivation to change lifestyle
- lifestyle (diet and physical activity)

[7] For more information on tier 3 services, see NHS England's report on Joined up clinical pathways for obesity.

- environmental, social and family factors that may contribute to being overweight or obese, and the success of treatment
- growth and pubertal status
- any medical problems and medication
- the role of family and paid carers in supporting individuals with learning disabilities to make lifestyle changes. **[2006, amended 2014]**

1.3.9 Consider referral to an appropriate specialist for children who are overweight or obese and have significant comorbidities or complex needs (for example, learning disabilities or other additional support needs). **[2006, amended 2014]**

1.3.10 In tier 3 services, assess associated comorbidities and possible causes for children and young people who are overweight or who have obesity. Use investigations such as:

- blood pressure measurement
- lipid profile, preferably while fasting
- fasting insulin,
- fasting glucose levels and oral glucose tolerance test
- liver function
- endocrine function.

Interpret the results of any tests used in the context of how overweight or obese the child is, the child's age, history of comorbidities, possible genetic causes and any family history of metabolic disease related to being overweight or obese. **[2006, amended 2014]**

1.3.11 Make arrangements for transitional care for children and young people who are moving from paediatric to adult services. **[2006]**

1.4 Lifestyle interventions

General

Adults and children

1.4.1 Multicomponent interventions are the treatment of choice. Ensure weight management programmes include behaviour change strategies (see recommendations 1.5.1–1.5.3) to increase people's physical activity levels or decrease inactivity, improve eating behaviour and the quality of the person's diet, and reduce energy intake.**[2006]**

1.4.2 When choosing treatments, take into account:

- the person's individual preference and social circumstance and the experience and outcome of previous treatments (including whether there were any barriers)
- the person's level of risk, based on BMI and, where appropriate, waist circumference (see recommendations 1.2.9 and 1.2.11)
- any comorbidities. **[2006]**

1.4.3 Document the results of any discussion. Keep a copy of the agreed goals and actions (ensure the person also does this), or put this in the person's notes. **[2006, amended 2014]**

1.4.4 Offer support depending on the person's needs, and be responsive to changes over time. **[2006]**

1.4.5 Ensure any healthcare professionals who deliver interventions for weight management have relevant competencies and have had specific training. **[2006]**

1.4.6 Provide information in formats and languages that are suited to the person. Use everyday, jargon-free language and explain any technical terms when talking to the person and their family or carers. Take into account the person's:

- age and stage of life
- gender
- cultural needs and sensitivities
- ethnicity
- social and economic circumstances
- specific communication needs (for example because of learning disabilities, physical disabilities or cognitive impairments due to neurological conditions). **[2006, amended 2014]**

1.4.7 Praise successes – however small – at every opportunity to encourage the person through the difficult process of changing established behaviour. **[2006]**

1.4.8 Give people who are overweight or obese, and their families and/or carers, relevant information on:

- being overweight and obesity in general, including related health risks
- realistic targets for weight loss; for adults the targets are usually:

  - maximum weekly weight loss of 0.5–1 kg[8]
  - aiming to lose 5–10% of original weight.
- the distinction between losing weight and maintaining weight loss, and the importance of developing skills for both; advise them that the change from losing weight to maintenance typically happens after 6–9 months of treatment
- realistic targets for outcomes other than weight loss, such as increased physical activity and healthier eating
- diagnosis and treatment options
- healthy eating in general[9]
- medication and side effects
- surgical treatments
- self-care
- voluntary organisations and support groups and how to contact them.

Ensure there is adequate time in the consultation to provide information and answer questions. **[2006, amended 2014]**

[8] Based on the British Dietetic Association 'Weight Wise' Campaign (www.bdaweightwise.com). Greater rates of weight loss may be appropriate in some cases, but this should be undertaken only under expert supervision

[9] Further information on healthy eating can be found on NHS Choices http://www.nhs.uk.

1.4.9 If a person (or their family or carers) does not feel this is the right time for them to take action, explain that advice and support will be available in the future whenever they need it. Provide contact details so that the person can get in touch when they are ready. **[2006]**

Adults

1.4.10 Encourage the person's partner or spouse to support any weight management programme. **[2006]**

1.4.11 Base the level of intensity of the intervention on the level of risk and the potential to gain health benefits (see recommendation 1.2.11). **[2006]**

Children

1.4.12 Be aware that the aim of weight management programmes for children and young people can vary. The focus may be on either weight maintenance or weight loss, depending on the person's age and stage of growth. **[2006]**

1.4.13 Encourage parents of children and young people who are overweight or obese to lose weight if they are also overweight or obese. **[2006]**

1.5 Behavioural interventions

Adults and children

1.5.1 Deliver any behavioural intervention with the support of an appropriately trained professional. **[2006]**

Adults

1.5.2 Include the following strategies in behavioural interventions for adults, as appropriate:

- self-monitoring of behaviour and progress
- stimulus control

- goal setting
- slowing rate of eating
- ensuring social support
- problem solving
- assertiveness
- cognitive restructuring (modifying thoughts)
- reinforcement of changes
- relapse prevention
- strategies for dealing with weight regain. **[2006]**

Children

1.5.3 Include the following strategies in behavioural interventions for children, as appropriate:

- stimulus control
- self-monitoring
- goal setting
- rewards for reaching goals
- problem solving.

Give praise to successes and encourage parents to role-model desired behaviours. **[2006]**

1.6 Physical activity

Adults

1.6.1 Encourage adults to increase their level of physical activity even if they do not lose weight as a result, because of the other health benefits it can bring (for example, reduced risk of type 2 diabetes and cardiovascular disease). Encourage adults to do at least 30 minutes of moderate or greater intensity physical activity on 5 or more days a week. The activity can be in 1 session or several sessions lasting 10 minutes or more. **[2006]**

1.6.2 Advise that to prevent obesity, most people may need to do 45–60 minutes of moderate-intensity activity a day, particularly if they do not reduce their energy intake. Advise people who have been obese and have lost weight that they may need to do 60–90 minutes of activity a day to avoid regaining weight. **[2006]**

1.6.3 Encourage adults to build up to the recommended activity levels for weight maintenance, using a managed approach with agreed goals.

Recommend types of physical activity, including:

- activities that can be incorporated into everyday life, such as brisk walking, gardening or cycling
- supervised exercise programmes
- other activities, such as swimming, aiming to walk a certain number of steps each day, or stair climbing.

Take into account the person's current physical fitness and ability for all activities. Encourage people to also reduce the amount of time they spend inactive, such as watching television, using a computer or playing video games. **[2006]**

Children

1.6.4 Encourage children and young people to increase their level of physical activity, even if they do not lose weight as a result, because of the other health benefits exercise can bring (for example, reduced risk of type 2 diabetes and cardiovascular disease). Encourage children to do at least 60 minutes of moderate or greater intensity physical activity each day. The activity can be in 1 session or several sessions lasting 10 minutes or more. **[2006]**

1.6.5 Be aware that children who are already overweight may need to do more than 60 minutes' activity. **[2006]**

1.6.6 Encourage children to reduce inactive behaviours, such as sitting and watching television, using a computer or playing video games. [2006]

1.6.7 Give children the opportunity and support to do more exercise in their daily lives (for example, walking, cycling, using the stairs and active play). Make the choice of activity with the child, and ensure it is appropriate to the child's ability and confidence. **[2006]**

1.6.8 Give children the opportunity and support to do more regular, structured physical activity, (for example football, swimming or dancing). Make the choice of activity with the child, and ensure it is appropriate to the child's ability and confidence. **[2006]**

1.7 Dietary

Adults and children

1.7.1 Tailor dietary changes to food preferences and allow for a flexible and individual approach to reducing calorie intake. **[2006]**

1.7.2 Do not use unduly restrictive and nutritionally unbalanced diets, because they are ineffective in the long term and can be harmful. **[2006]**

1.7.3 Encourage people to improve their diet even if they do not lose weight, because there can be other health benefits. **[2006]**

Adults

1.7.4 The main requirement of a dietary approach to weight loss is that total energy intake should be less than energy expenditure. **[2006]**

1.7.5 Diets that have a 600 kcal/day deficit (that is, they contain 600 kcal less than the person needs to stay the same weight) or that reduce calories by lowering the fat content (low-fat diets), in combination with expert support and intensive follow up, are recommended for sustainable weight loss. **[2006]**

1.7.6 Consider low-calorie diets (800–1600 kcal/day), but be aware these are less likely to be nutritionally complete. **[2006, amended 2014]**

1.7.7 Do not routinely use very-low-calorie diets (800 kcal/day or less) to manage obesity (defined as BMI over 30). **[new 2014]**

1.7.8 Only consider very-low-calorie diets, with ongoing support, as part of a multicomponent weight management strategy for a maximum of 12 weeks (continuously or intermittently) in people who are obese who have a clinically-assessed need to rapidly lose weight (for example, people who require joint replacement surgery or who are seeking fertility services). **[new 2014]**

1.7.9 Before starting someone on a very-low-calorie diet as part of a multicomponent weight management strategy:

- Consider counselling and assess for eating disorders or other psychopathology to make sure the diet is appropriate for them.
- Discuss the risks and benefits with them.

- Tell them that this is not a long-term weight management strategy, and that regaining weight is likely and not because of their own or their clinician's failure.
- Discuss the reintroduction of food with them. **[new 2014]**

1.7.10 Provide a long-term multicomponent strategy to help the person maintain their weight after the use of a very-low-calorie diet. (See recommendation 1.4.1). **[new 2014]**

1.7.11 Encourage people to eat a balanced diet in the long term, consistent with other healthy eating advice. **[2006 amended 2014]**

Children

1.7.12 A dietary approach alone is not recommended. It is essential that any dietary recommendations are part of a multicomponent intervention. **[2006]**

1.7.13 Any dietary changes should be age appropriate and consistent with healthy eating advice. **[2006]**

1.7.14 For overweight and obese children and adolescents, total energy intake should be below their energy expenditure. Changes should be sustainable. **[2006]**

1.8 Pharmacological interventions

General

Adults

1.8.1 Consider pharmacological treatment only after dietary, exercise and behavioural approaches have been started and evaluated. **[2006]**

1.8.2 Consider drug treatment for people who have not reached their target weight loss or have reached a plateau on dietary, activity and behavioural changes. **[2006]**

1.8.3 Make the decision to start drug treatments after discussing the potential benefits and limitations with the person, including the mode of action, adverse effects and monitoring requirements, and the potential impact on the person's motivation. Make arrangements for appropriate healthcare professionals to offer

information, support and counselling on additional diet, physical activity and behavioural strategies when drug treatment is prescribed. Provide information on patient support programmes. **[2006]**

Children

1.8.4 Drug treatment is not generally recommended for children younger than 12 years. **[2006]**

1.8.5 In children younger than 12 years, drug treatment may be used only in exceptional circumstances, if severe comorbidities are present. Prescribing should be started and monitored only in specialist paediatric settings. **[2006, amended 2014]**

1.8.6 In children aged 12 years and older, treatment with orlistat[10] is recommended only if physical comorbidities (such as orthopaedic problems or sleep apnoea) or severe psychological comorbidities are present. Treatment should be started in a specialist paediatric setting, by multidisciplinary teams with experience of prescribing in this age group. **[2006, amended 2014]**

1.8.7 Do not give orlistat to children for obesity unless prescribed by a multidisciplinary team with expertise in:

- drug monitoring
- psychological support
- behavioural interventions
- interventions to increase physical activity
- interventions to improve diet. **[2006, amended 2014]**

[10] At the time of publication (October 2014), orlistat did not have a UK marketing authorisation for use in children for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's 'Good practice in prescribing and managing medicines and devices' for further information.

1.8.8 Drug treatment may be continued in primary care for example with a shared care protocol if local circumstances and/or licensing allow. **[2006, amended 2014]**

1.9 Continued prescribing and withdrawal

Adults and children

1.9.1 Pharmacological treatment may be used to maintain weight loss rather than to continue to lose weight. **[2006]**

1.9.2 If there is concern about micronutrient intake adequacy, a supplement providing the reference nutrient intake for all vitamins and minerals should be considered, particularly for vulnerable groups such as older people (who may be at risk of malnutrition) and young people (who need vitamins and minerals for growth and development). **[2006]**

1.9.3 Offer support to help maintain weight loss to people whose drug treatment is being withdrawn; if they did not reach their target weight, their self-confidence and belief in their ability to make changes may be low. **[2006]**

Adults

1.9.4 Monitor the effect of drug treatment and reinforce lifestyle advice and adherence through regular review. **[2006]**

1.9.5 Consider withdrawing drug treatment in people who have not reached weight loss targets (see recommendation 1.9.8 for details). **[2006]**

1.9.6 Rates of weight loss may be slower in people with type 2 diabetes, so less strict goals than those for people without diabetes may be appropriate. Agree the goals with the person and review them regularly. **[2006]**

1.9.7 Only prescribe orlistat as part of an overall plan for managing obesity in adults who meet one of the following criteria:

- a BMI of 28 kg/m^2 or more with associated risk factors
- a BMI of 30 kg/m^2 or more. **[2006]**

1.9.8 Continue orlistat therapy beyond 3 months only if the person has lost at least 5% of their initial body weight since starting drug treatment. (See also recommendation 1.9.6 for advice on targets for people with type 2 diabetes). **[2006]**

1.9.9 Make the decision to use drug treatment for longer than 12 months (usually for weight maintenance) after discussing potential benefits and limitations with the person. **[2006]**

1.9.10 The co-prescribing of orlistat with other drugs aimed at weight reduction is not recommended. **[2006]**

Children

1.9.11 If orlistat[11] is prescribed for children, a 6–12-month trial is recommended, with regular review to assess effectiveness, adverse effects and adherence. **[2006, amended 2014]**

1.10 Surgical interventions

1.10.1 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/m^2 or more, or between 35 kg/m^2 and 40 kg/m^2 and other significant disease (for example, type 2 diabetes or high blood pressure) that could be improved if they lost weight.

[11] At the time of publication (October 2014), orlistat did not have a UK marketing authorisation for use in children for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's (Good practice in prescribing and managing medicines and devices | 1) for further information.

- 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[12].
- The person is generally fit for anaesthesia and surgery.
- The person commits to the need for long-term follow up.

See recommendations 1.10.12 and 1.10.13 for additional criteria to use when assessing children, and recommendation 1.10.7 for additional criteria for adults. **[2006, amended 2014]**

1.10.2 The hospital specialist and/or bariatric surgeon should discuss the following with people who are severely obese if they are considering surgery to aid weight reduction:

- the potential benefits
- the longer-term implications of surgery
- associated risks
- complications
- perioperative mortality.

The discussion should also include the person's family, as appropriate. **[2006]**

1.10.3 Choose the surgical intervention jointly with the person, taking into account:

- the degree of obesity
- comorbidities
- the best available evidence on effectiveness and long-term effects
- the facilities and equipment available

[12] For more information on tier 3 services, see NHS England's report on Joined up clinical pathways for obesity.

- the experience of the surgeon who would perform the operation. **[2006]**

1.10.4 Provide regular, specialist postoperative dietetic monitoring, including:

- information on the appropriate diet for the bariatric procedure
- monitoring of the person's micronutrient status
- information on patient support groups
- individualised nutritional supplementation, support and guidance to achieve long-term weight loss and weight maintenance. **[2006]**

1.10.5 Arrange prospective audit so that the outcomes and complications of different procedures, the impact on quality of life and nutritional status, and the effect on comorbidities can be monitored in both the short and the long term.[13] **[2006, amended 2014]**

1.10.6 The surgeon in the multidisciplinary team should:

- have had a relevant supervised training programme
- have specialist experience in bariatric surgery
- submit data for a national clinical audit scheme.[14] **[2006, amended 2014]**

Adults

1.10.7 In addition to the criteria listed in 1.10.1, bariatric surgery is the option of choice (instead of lifestyle interventions or drug treatment) for adults with a BMI of more than 50 kg/m^2 when other interventions have not been effective. **[2006]**

1.10.8 Orlistat may be used to maintain or reduce weight before surgery for people who have been recommended surgery as a first-line

[13] The National Bariatric Surgery Registry is now available to conduct national audit for a number of agreed outcomes www.nbsr.co.uk
[14] The National Bariatric Surgery Registry is now available to conduct national audit for a number of agreed outcomes www.nbsr.co.uk

option, if it is considered that the waiting time for surgery is excessive. **[2006]**

1.10.9 Surgery for obesity should be undertaken only by a multidisciplinary team that can provide:

- preoperative assessment, including a risk-benefit analysis that includes preventing complications of obesity, and specialist assessment for eating disorder(s)
- information on the different procedures, including potential weight loss and associated risks
- regular postoperative assessment, including specialist dietetic and surgical follow up (see 1.12.1)
- management of comorbidities
- psychological support before and after surgery
- information on, or access to, plastic surgery (such as apronectomy) when appropriate
- access to suitable equipment, including scales, theatre tables, Zimmer frames, commodes, hoists, bed frames, pressure-relieving mattresses and seating suitable for people undergoing bariatric surgery, and staff trained to use them. **[2006]**

1.10.10 Carry out a comprehensive preoperative assessment of any psychological or clinical factors that may affect adherence to postoperative care requirements (such as changes to diet) before performing surgery. **[2006]**

1.10.11 Revisional surgery (if the original operation has failed) should be undertaken only in specialist centres by surgeons with extensive experience because of the high rate of complications and increased mortality. **[2006]**

Children

1.10.12 Surgical intervention is not generally recommended in children or young people. **[2006]**

1.10.13 Bariatric surgery may be considered for young people only in exceptional circumstances, and if they have achieved or nearly achieved physiological maturity. **[2006]**

1.10.14 Surgery for obesity should be undertaken only by a multidisciplinary team that can provide paediatric expertise in:

- preoperative assessment, including a risk-benefit analysis that includes preventing complications of obesity, and specialist assessment for eating disorder(s)
- information on the different procedures, including potential weight loss and associated risks
- regular postoperative assessment, including specialist dietetic and surgical follow up
- management of comorbidities
- psychological support before and after surgery
- information on or access to plastic surgery (such as apronectomy) when appropriate
- access to suitable equipment, including scales, theatre tables, Zimmer frames, commodes, hoists, bed frames, pressure-relieving mattresses and seating suitable for children and young

people undergoing bariatric surgery, and staff trained to use them. **[2006]**

1.10.15 Coordinate surgical care and follow up around the child or young person and their family's needs. Comply with national core standards as defined in A Call to Action on Obesity in England. **[2006, amended 2014]**

1.10.16 Ensure all young people have had a comprehensive psychological, educational, family and social assessment before undergoing bariatric surgery. **[2006]**

1.10.17 Perform a full medical evaluation, including genetic screening or assessment before surgery to exclude rare, treatable causes of obesity. **[2006]**

1.11 Bariatric surgery for people with recent onset type 2 diabetes

1.11.1 Offer an assessment for bariatric surgery to people who have recent onset type 2 diabetes[15] and who are obese (BMI of 35 and over). **[new 2014]**

1.11.2 Consider an assessment for bariatric surgery in people who have recent onset type 2 diabetes[15] with a BMI of 30–34.9. **[new 2014]**

1.11.3 Consider assessing people who have recent-onset type 2 diabetes[15] and are of Asian family origin for bariatric surgery at a lower BMI (see recommendation 1.2.8). **[new 2014]**

1.12 Follow-up care

1.12.1 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 support groups. **[new 2014]**

[15] The GDG considered that recent-onset type 2 diabetes would include those people whose diagnosis has been made within a 10-year time frame.

1.12.2 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. **[new 2014]**

2 Research recommendations

The Guideline Development Group has made the following recommendations for research, based on its review of evidence, to improve NICE guidance and patient care in the future.

2.1 Post-operative care after bariatric surgery

Do post-operative lifestyle intervention programmes (exercise, behavioural or dietary) improve weight loss and weight-loss maintenance following bariatric surgery?

Why this is important

Lifestyle interventions are targeted pre-operatively with formalised recommendations to prepare patients for surgery. In contrast, post-surgery there are no lifestyle intervention programmes to help patients adapt. Limited evidence suggests that exercise and behavioural input improve weight loss outcomes, but high quality research is needed to assess the impact of these interventions.

2.2 Long-term outcomes of bariatric surgery on people with type 2 diabetes

What is the long-term effect of bariatric surgery on diabetes-related complications and quality of life in people with type 2 diabetes compared with optimal medical treatment?

Why this is important

Short-term studies (1–2 years) show that patients with type 2 diabetes who undergo bariatric surgery lose more weight and have better blood glucose control than those treated with conventional diabetes management. There are

no long-term data (that is, over 3 years) to show whether this results in reduced development of diabetes complications and improved quality of life compared with standard care.

2.3 Bariatric surgery in children and young people

What are the long-term outcomes of bariatric surgery in children and young people with obesity?

Why this is important

Monitoring of obesity comorbidities (respiratory problems, atherosclerosis, insulin resistance, type 2 diabetes, dyslipidaemia, fatty liver disease, psychological sequelae) in children and young people with obesity is limited because of the lack of dedicated tier 3/4 paediatric obesity services in the UK. Centralised collection of cohort data is lacking in the UK when compared with elsewhere in Europe (Flechtner-Mors 2013) and the USA (Must 2012). Current data on longer-term outcomes (>5 years) in young people undergoing bariatric surgery are also sparse (Lennerz 2014, Black 2013), demonstrating a need for research in this area.

2.4 Obesity management for people with learning disabilities

What is the best way to deliver obesity management interventions to people with particular conditions associated with increased risk of obesity (such as people with a learning disability or enduring mental health difficulties)?

Why this is important

People living with learning disabilities or mental health problems have been found to experience higher rates of obesity compared with people who do not have these conditions.

It is estimated that around 23% of children with obesity have learning disabilities. Other studies report rates of learning disabilities in adults with obesity of around 50%.

Among adults with severe mental illness, the prevalence of obesity has been reported to be as high as 55%. Physical inactivity, unhealthy diets and weight gain from psychotropic medication are all factors that contribute to this. People with serious mental illness have mortality rates up to 3 times as high as the general population. The primary cause of death in these people is cardiovascular disease, which is strongly associated with the incidence of obesity.

There is minimal evidence from controlled studies as to which obesity interventions are effective for people with learning disabilities or mental health difficulties. This lack of evidence contributes to the inequalities around outcomes and access to services as experienced by these people.

2.5 Long-term effect of VLCDs on people with a BMI of 40 kg/m^2 or more

What are the long-term effects of using very-low-calorie diets (VLCDs) versus low-calorie diets (LCDs) on weight and quality of life in patients with a BMI of 40 kg/m^2 or more, including the impact on weight cycling?

Why this is important

There was little information found in the literature search on the use of VLCDs in patients with a BMI above 40 kg/m^2, although they are increasingly used in this group of patients. There was also a lack of data on quality of life. The Guideline Development Group was concerned about VLCDs potential encouraging disordered eating or weight cycling, which is detrimental to both physical and psychological health. It would also be useful to differentiate between liquid VLCDs and those VLCDs which incorporate solid food products to identify whether the liquid formulation or the energy reduction alone affected weight loss, quality of life, and subsequent disordered eating.

3 Other information

3.1 Scope and how this guideline was developed

NICE guidelines are developed in accordance with a scope that defines what the guideline will and will not cover.

How this guideline was developed

NICE commissioned the [National Collaborating Centre for [add full name] / National Clinical Guideline Centre] to develop this guideline. The Centre established a Guideline Development Group (see section 4), which reviewed the evidence and developed the recommendations.

The methods and processes for developing NICE clinical guidelines are described in The guidelines manual.

3.2 Related NICE guidance

Details are correct at the time of consultation on the guideline (July 2014). Further information is available on the NICE website.

Published

General

- Patient experience in adult NHS services. NICE clinical guideline 138 (2012).
- Medicines adherence. NICE clinical guideline 76 (2009).

Condition-specific

- Managing overweight and obesity among children and young people. NICE public health guideline 47 (2013).
- Assessing body mass index and waist circumference thresholds for intervening to prevent ill health and premature death among adults from black, Asian and other minority ethnic groups in the UK. NICE public health guideline 46 (2013).

- Physical activity: brief advice for adults in primary care. NICE public health guideline 44 (2013).
- Obesity: working with local communities. NICE public health guideline 42 (2012).
- Preventing type 2 diabetes: risk identification and interventions for individuals at high risk. NICE public health guideline 38 (2012).
- Walking and cycling. NICE public health guideline 41 (2012).
- Laparoscopic gastric plication for the treatment of severe obesity. NICE interventional procedure guideline 432 (2012).
- Preventing type 2 diabetes: population and community level interventions. NICE public health guideline 35 (2011).
- Prevention of cardiovascular disease. NICE public health guideline 25 (2010).
- Weight management before, during and after pregnancy. NICE public health guideline 27 (2010).
- Type 2 diabetes: the management of type 2 diabetes. NICE clinical guideline 87 (2009)
- Four commonly used methods to increase physical activity. NICE public health guideline 2 (2006).
- Maternal and child nutrition. NICE public health guideline 11 (2008).
- Eating disorders. NICE clinical guideline 9 (2004).
- Preoperative tests. NICE clinical guideline 3 (2003).
- Overweight and obese adults: lifestyle weight management services. NICE public health guideline 53.

Under development

NICE is developing the following guidance (details available from the NICE website):

- Maintaining a healthy weight and preventing excess weight gain among children and adults. NICE public health guideline. Publication expected March 2015.

4 The Guideline Development Group, National Collaborating Centre and NICE project team

4.1 Guideline Development Group

The Guideline Development Group members listed are those for the 2014 update. For the composition of (the) previous Guideline Development Group(s), see the full guideline.

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Appendix A: Recommendations from NICE clinical guideline 43 (2006) that have been deleted or changed

NICE is piloting a new process for identifying and labelling changes to recommendations that have not undergone an evidence review as part of the update. In this guideline:

- minor editorial changes that do not affect the content of the recommendation are not indicated in the text
- the definition of an 'amended' recommendation has been expanded.

Recommendations to be deleted

The table shows recommendations from 2006 that NICE proposes deleting in the 2014 update. The right-hand column gives the replacement recommendation, or explains the reason for the deletion if there is no replacement recommendation

Recommendation in 2006 guideline	Comment
All Public health recommendations in sections 1.1–1.7 of CG43	**NICE PH guidance has replaced the recommendations in section 1.1 for adults in Overweight and obese adults – lifestyle weight management (PH53) and those recommendations in section 1.7 will be replaced by the PH guidance Maintaining a healthy weight and preventing excess weight gain among children and adults currently in development (expected publication Feb 2015). Sections 1.2–1.6 will remain in CG43.**
If necessary, another consultation should be offered to fully explore the options for treatment or discuss test results. [1.2.3.6]	Replaced by recommendation 1.3.5.
Very-low-calorie diets (less than 1000 kcal/day) may be used for a	Replaced by recommendations 1.7.8

maximum of 12 weeks continuously, or intermittently with a low-calorie diet (for example for 2–4 days a week), by people who are obese and have reached a plateau in weight loss [1.2.4.32]	and 1.7.9.
Any diet of less than 600 kcal/day should be used only under clinical supervision.[1.2.4.33]	Replaced by recommendations 1.7.8 and 1.7.9.
Prescribing should be in accordance with the drug's summary of product characteristics.[1.2.5.4]	Recommendation deleted as covered by standard NICE text in all clinical guideline introductions.
Orlistat and sibutramine should be prescribed for young people only if the prescriber is willing to submit data to the proposed national registry on the use of these drugs in young people (see also Section 8).[1.2.5.9]	Recommendation deleted as the Guideline Development Group were not aware that a registry of the use of drugs in young people was available or planned and that this was no longer a priority.
Sibutramine should be prescribed only as part of an overall plan for managing obesity in adults who meet one of the following criteria: a BMI of 27.0kg/m2 or more and other obesity-related risk factors such as type 2 diabetes or dyslipidaemia a BMI of 30.0kg/m2 or more.[1.2.5.22]	Recommendation deleted as marketing authorisation for sibutramine has been suspended.
Sibutramine should not be prescribed unless there are adequate arrangements for monitoring both	Recommendation deleted as marketing authorisation for

weight loss and adverse effects (specifically pulse and blood pressure). [1.2.5.23]	sibutramine has been suspended.
Therapy should be continued beyond 3 months only if the person has lost at least 5% of their initial body weight since starting drug treatment. [1.2.5.24]	Recommendation deleted as marketing authorisation for sibutramine has been suspended.
Treatment is not currently recommended beyond the licensed duration of 12 months. [1.2.5.25]	Recommendation deleted as marketing authorisation for sibutramine has been suspended.
The co-prescribing of sibutramine with other drugs aimed at weight reduction is not recommended. [1.2.5.26]	Recommendation deleted as marketing authorisation for sibutramine has been suspended.

Amended recommendation wording (change to meaning)

Recommendations are labelled **[2006, amended 2014]** if the evidence has not been reviewed but changes have been made to the recommendation wording (indicated by highlighted text) that change the meaning.

Recommendation in 2006 guideline	Recommendation in current guideline	Reason for change
The care of children and young people should be coordinated around their individual and family needs and should comply with national core standards as defined in the Children's NSFs for	Coordinate the care of children and young people around their individual and family needs. Comply with national core standards as defined in A Call to Action on Obesity in England.	Updated to reflect NICE house style and to reflect changes to national core standards from National Service

England and Wales.	[1.1.5]	Frameworks to A Call To Action on Obesity in England.
The overall aim should be to create a supportive environment that helps overweight or obese children and their families make lifestyle changes.	Aim to create a supportive environment that helps a child who is overweight or who has obesity, and their family, make lifestyle changes.[1.1.6]	Updated to reflect NICE house style. Footnote added to clarifying the settings which could constitute 'environment'.
Body mass index (BMI) should be used as a measure of overweight in adults, but needs to be interpreted with caution because it is not a direct measure of adiposity.	Use body mass index (BMI) as a practical estimate of adiposity in adults. Interpret BMI with caution because it is not a direct measure of adiposity.[1.2.2]	Updated to reflect NICE house style and to reflect Guideline Development Group consensus that BMI is a practical estimate of adiposity, as opposed to overweight.
Waist circumference may be used, in addition to BMI, in people with a BMI less than 35 kg/m^2.	Think about using waist circumference, in addition to BMI, in people with a BMI less than 35kg/m^2.[1.2.3]	Updated to reflect NICE house style and to include a footnote on the

		NICE public health guidance on waist circumference.
BMI (adjusted for age and gender) is recommended as a practical estimate of overweight in children and young people, but needs to be interpreted with caution because it is not a direct measure of adiposity.	Use BMI (adjusted for age and gender) as a practical estimate of adiposity in children and young people. Interpret BMI with caution because it is not a direct measure of adiposity.[1.2.4]	Updated to reflect NICE house style and to reflect Guideline Development Group consensus that BMI is a practical estimate of adiposity, as opposed to overweight and to reflect addition of footnote providing further information on the use of z scores.
BMI measurement in children and young people should be related to the UK 1990 BMI charts to give age- and gender-specific information.	Relate BMI measurement in children and young people to the UK 1990 BMI charts to give age- and gender-specific information.[1.2.12]	Updated to reflect NICE house style and to reflect addition of footnote providing further

		information on the use of z-scores.
Patients and their families and/or carers should be given information on the reasons for tests, how the tests are performed and their results and meaning.	Give people and their families and/or carers information on the reasons for tests, how the tests are done, and their results and meaning. If necessary, offer another consultation to fully explore the options for treatment or discuss test results.[1.3.5]	Updated to reflect NICE house style and combined with recommendation 1.2.3.6 from CG43.
After appropriate measurements have been taken and the issues of weight raised with the person, an assessment should be done, covering: • presenting symptoms and underlying causes of overweight and obesity • eating behaviour • comorbidities (such as type 2 diabetes, hypertension, cardiovascular disease, osteoarthritis, dyslipidaemia and sleep	Take measurements (see recommendations in section 1.2.) to determine degree of overweight or obesity and discuss the implications of the person's weight. Then, assess: • any presenting symptoms • any underlying causes of being overweight or obese • eating behaviours • any comorbidities (for example type 2 diabetes, hypertension, cardiovascular disease,	Updated to reflect NICE house style and to reflect changing measurement of blood glucose to HBA_{1c}. The recommendation was also edited to reflect the needs of people with learning disabilities.

apnoea) and risk factors, using the following tests – lipid profile, blood glucose (both preferably fasting) and blood pressure measurement • lifestyle – diet and physical activity • psychosocial distress and lifestyle, environmental, social and family factors – including family history of overweight and obesity and comorbidities • willingness and motivation to change • potential of weight loss to improve health • psychological problems • medical problems and medication.	osteoarthritis, dyslipidaemia and sleep apnoea) • any risk factors (assess using lipid profile preferably done when fasting, blood pressure measurement and HbA_{1c} measurement) • the person's lifestyle (diet and physical activity) • any psychosocial distress • any environmental, social and family factors, including family history of overweight and obesity and comorbidities • the person's willingness and motivation to change lifestyle • the potential of weight loss to improve health • any psychological problems • any medical problems and medication • the role of family and paid carers in supporting individuals with learning disabilities	

	to make lifestyle changes.[1.3.6]	
Referral to specialist care should be considered if: • the underlying causes of overweight and obesity need to be assessed • the person has complex disease states and/or needs that cannot be managed adequately in either primary or secondary care • conventional treatment has failed in primary or secondary care • drug therapy is being considered for a person with a BMI more than 50 kg/m2 • specialist interventions (such as a very-low-calorie diet for extended periods) may be needed, or • surgery is being considered.	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 and/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 more than 50 kg/m^2 • specialist interventions (such as a very-low-calorie diet) may be needed • surgery is being considered.[1.3.7]	Updated to reflect NICE house style and to reflect service organisation changes to tiered services. Additions have also been made to reflect the needs of people with learning disabilities. Edits have been made to use more sensitive language and avoid the term failure
After measurements have	Take measurements to	Updated to

been taken and the issue of weight raised with the child and family, an assessment should be done, covering: • presenting symptoms and underlying causes of overweight and obesity • willingness and motivation to change • comorbidities (such as hypertension, hyperinsulinaemia, dyslipidaemia, type 2 diabetes, psychosocial dysfunction and exacerbation of conditions such as asthma) and risk factors • psychosocial distress, such as low self-esteem, teasing and bullying • family history of overweight and obesity and comorbidities • lifestyle – diet and physical activity	determine degree of overweight or obesity and raise the issue of weight with the child and family, then assess: • presenting symptoms and underlying causes of being overweight or obese • willingness and motivation to change • comorbidities (such as hypertension, hyperinsulinaemia, dyslipidaemia, type 2 diabetes, psychosocial dysfunction and exacerbation of conditions such as asthma) • any risk factors (assess using lipid profile preferably done when fasting, blood pressure measurement and HbA_{1c} measurement) • psychosocial distress, such as low self-esteem, teasing and bullying • family history of being overweight or obese	reflect NICE house style and to reflect changing measurement of blood glucose to HBA_{1c}. The recommendation was also edited to include additional points of clinical relevance that were in the adult recommendation but missing from the children and young people recommendation by Guideline Development Group consensus. The recommendation was also edited to reflect the needs of people with learning disabilities.

• environmental, social and family factors that may contribute to overweight and obesity and the success of treatment • growth and pubertal status.	and comorbidities • the child and family's willingness and motivation to change lifestyle • lifestyle (diet and physical activity) • environmental, social and family factors that may contribute to being overweight or obese, and the success of treatment • growth and pubertal status. • Any medical problems and medication • The role of family and paid carers in supporting individuals with learning disabilities to make lifestyle changes. [1.3.8]	
Referral to an appropriate specialist should be considered for children who are overweight or obese and have significant comorbidity or complex needs (for example, learning or educational difficulties).	Consider referral to an appropriate specialist for children who are overweight or obese and have significant comorbidities or complex needs (for example, learning disabilities or other additional support	Updated to reflect NICE house style and edit the language related to the learning disabilities population.

	needs.[1.3.9]	
In secondary care, the assessment of overweight and/or obese children and young people should include assessment of associated comorbidities and possible aetiology, and investigations such as: • blood pressure measurement • fasting lipid profile • fasting insulin and glucose levels • liver function • endocrine function. These tests need to be performed, and results interpreted, in the context of the degree of overweight and obesity, the child's age, history of comorbidities, possible genetic causes and any family history of metabolic disease related to overweight and obesity.	In tier 3 services, assess associated comorbidities and possible causes for children and young people who are overweight or who have obesity. Use investigations such as: • blood pressure measurement • lipid profile, preferably while fasting • fasting insulin, • fasting glucose levels and oral glucose tolerance test • liver function • endocrine function. Interpret the results of any tests used in the context of how overweight or obese the child is, the child's age, history of comorbidities, possible genetic causes and any family history of metabolic disease related to being overweight or obese. [1.3.10]	Updated to reflect NICE house style, to reflect changing service organisation to tiered services.

The results of the discussion should be documented, and a copy of the agreed goals and actions should be kept by the person and the healthcare professional or put in the notes as appropriate. Healthcare professionals should tailor support to meet the person's needs over the long term.	Document the results of any discussion. Keep a copy of the agreed goals and actions (ensure the person also does this), or put this in the person's notes.[1.4.3]	Updated to reflect NICE house style and to remove overlap with recommendation 1.2.4.4 of CG43.
Information should be provided in formats and languages that are suited to the person. When talking to patients and carers, healthcare professionals should use everyday, jargon-free language and explain any technical terms. Consideration should be given to the person's: • age and stage of life • gender • cultural needs and sensitivities	Provide information in formats and languages that are suited to the person. Use everyday, jargon-free language and explain any technical terms when talking to the person and their family or carers. Take into account the person's: • age and stage of life • gender • cultural needs and sensitivities • ethnicity • social and economic circumstances • specific communication needs (for example	Updated to reflect NICE house style and to edit the language related to the learning disabilities population

• ethnicity • social and economic circumstances • physical and mental disabilities.	because of learning disabilities, physical disabilities or cognitive impairments due to neurological conditions. [1.4.6]	
People who are overweight or obese, and their families and/or carers, should be given relevant information on: • overweight and obesity in general, including related health risks • realistic targets for weight loss; for adults the targets are usually - maximum weekly weight loss of 0.5–1 kg - aim to lose 5–10% of original weight • the distinction between losing weight and maintaining weight loss, and the importance of developing skills for both; the change from losing weight to maintenance typically happens after 6–9	Give people who are overweight or obese, and their families and/or carers, relevant information on: • being overweight and obesity in general, including related health risks • realistic targets for weight loss; for adults the targets are usually: - maximum weekly weight loss of 0.5–1 kg - aiming to lose 5–10% of original weight. • the distinction between losing weight and maintaining weight loss, and the importance of developing skills for both; advise them that the change from losing weight to maintenance	Updated to reflect NICE house style and to include an up to date footnote cross referring to the 'Weight Wise' campaign. In place of Appendix D, a footnote has been added to cross refer to the NHS Choices: Healthy Eating website

months of treatment • realistic targets for outcomes other than weight loss, such as increased physical activity, healthier eating • diagnosis and treatment options • healthy eating in general (see appendix D) • medication and side effects • surgical treatments • self care • voluntary organisations and support groups and how to contact them. There should be adequate time in the consultation to provide information and answer questions.	typically happens after 6–9 months of treatment • realistic targets for outcomes other than weight loss, such as increased physical activity and healthier eating • diagnosis and treatment options • healthy eating in general • medication and side effects • surgical treatments • self-care • voluntary organisations and support groups and how to contact them. Ensure there is adequate time in the consultation to provide information and answer questions.[1.4.8]	
Low-calorie diets (1000–1600 kcal/day) may also be considered, but are less likely to be nutritionally complete	Consider low-calorie diets (800–1600 kcal/day), but be aware these are less likely to be nutritionally complete.[1.7.6]	Updated to reflect NICE house style. Definition of low calorie diet amended to

		reflect changes to definition of a very-low-calorie diet by Guideline Development Group consensus and review of evidence.
In the longer term, people should move towards eating a balanced diet, consistent with other healthy eating advice	Encourage people to eat a balanced diet in the long term, consistent with other healthy eating advice.[1.7.11]	Updated to NICE house style and addition of a footnote referral to NHS Choices Healthy Eating website
In children younger than 12 years, drug treatment may be used only in exceptional circumstances, if severe life-threatening comorbidities (such as sleep apnoea or raised intracranial pressure) are present. Prescribing should be started and monitored only in specialist paediatric	In children younger than 12 years, drug treatment may be used only in exceptional circumstances, if severe comorbidities are present. Prescribing should be started and monitored only in specialist paediatric settings. [1.8.5]	Removal of life threatening and examples of severe life threatening comorbidities deleted as considered by the Guideline Development Group to be unhelpful in clinical practice.

settings		
In children aged 12 years and older, treatment with orlistat or sibutramine is recommended only if physical comorbidities (such as orthopaedic problems or sleep apnoea) or severe psychological comorbidities are present. Treatment should be started in a specialist paediatric setting, by multidisciplinary teams with experience of prescribing in this age group.	In children aged 12 years and older, treatment with orlistat is recommended only if physical comorbidities (such as orthopaedic problems or sleep apnoea) or severe psychological comorbidities are present. Treatment should be started in a specialist paediatric setting, by multidisciplinary teams with experience of prescribing in this age group.[1.8.6]	Remove reference to sibutramine as marketing authorisation has been suspended.
Orlistat or sibutramine should be prescribed for obesity in children only by a multidisciplinary team with expertise in: • drug monitoring • psychological support • behavioural interventions • interventions to increase physical activity	Do not give orlistat to children for obesity unless prescribed by a multidisciplinary team with expertise in: • drug monitoring • psychological support • behavioural interventions • interventions to increase physical activity • interventions to improve diet. [1.8.7]	Update to NICE house style and removal of reference to sibutramine as marketing authorisation has been suspended.

• interventions to improve diet.		
After drug treatment has been started in specialist care, it may be continued in primary care if local circumstances and/or licensing allow	Drug treatment may be continued in primary care for example with a shared care protocol if local circumstances and/or licensing allow. [1.8.8]	Update to reflect NICE house style. Also added reference to the use of a shared care protocol to support prescribing decisions between specialist services and primary care in line with current practice to ensure safe prescribing.
If orlistat or sibutramine is prescribed for children, a 6–12-month trial is recommended, with regular review to assess effectiveness, adverse effects and adherence.	If orlistat is prescribed for children, a 6 to 12-month trial is recommended, with regular review to assess effectiveness, adverse effects and adherence. [1.9.7]	Removal of sibutramine and to include footnote highlighting that the use of orlistat in children and young people is outside its marketing

		authorisation.
Bariatric surgery is recommended as 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 • all appropriate non-surgical measures have been tried but have failed to achieve or maintain adequate, clinically beneficial weight loss for at least 6 months • the person has been receiving or will receive intensive management in a specialist obesity service • the person is generally fit for	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/m^2 or more, or between 35 kg/m^2 and 40 kg/m^2 and other significant disease (for example, type 2 diabetes or high blood pressure) that could be improved if they lost weight. • 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	Update to NICE house style and edits have been made to use more sensitive language and avoid the term ‘failure’.

anaesthesia and surgery • the person commits to the need for long-term follow-up. See recommendations 1.7.6.12 and 1.7.6.13 for additional criteria to use when assessing children, and recommendation 1.7.6.7 for additional criteria for adults.	follow-up. See recommendations 1.10.12 and 1.10.13 for additional criteria to use when assessing children, and recommendation 1.10.7 for additional criteria for adults. [1.10.1]	
Arrangements for prospective audit should be made, so that the outcomes and complications of different procedures, the impact on quality of life and nutritional status, and the effect on comorbidities can be monitored in both the short and the long term.	Arrange prospective audit so that the outcomes and complications of different procedures, the impact on quality of life and nutritional status, and the effect on comorbidities can be monitored in both the short and the long term. [1.10.5]	Updated to reflect NICE house style and include a footnote cross referring to the National Bariatric Surgery Register.
The surgeon in the multidisciplinary team should: • have undertaken a relevant supervised training programme • have specialist experience in bariatric	The surgeon in the multidisciplinary team should: • have had a relevant supervised training programme • have specialist experience in bariatric	Updated to reflect NICE house style and include a footnote cross referring to the National Bariatric Surgery

surgery • be willing to submit data for a national clinical audit scheme	surgery • submit data for a national clinical audit scheme.[1.10.6]	Register.
Surgical care and follow-up should be coordinated around the young person and their family's needs and should comply with national core standards as defined in the Children's NSFs for England and Wales.	Coordinate surgical care and follow up around the child or young person and their family's needs. Comply with national core standards as defined in A Call to Action on Obesity in England. [1.10.15]	Updated to reflect NICE house style and to reflect changes to national core standards from National Service Frameworks to A Call To Action on Obesity in England

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1140 ***Changes to recommendation wording for clarification only (no***

1141 ***change to meaning)***

Recommendation numbers in current guideline	**Comment**
1.1.1–1.1.4; 1.1.7–1.1.9; 1.2.1; 1.2.5 - 1.2.11; 1.2.13–1.2.14; 1.3.1–1.3.4; 1.3.11; 1.4.1–1.4.2; 1.4.4–1.4.5;1.4.7; 1.4.9–1.4.13; 1.5.1–1.5.3; 1.6.1–1.6.8; 1.7.1–1.7.5; 1.7.12–1.7.14; 1.8.1–1.8.4; 1.9.1–1.9.6; 1.9.8 – 1.9.11;1.10.2–1.10.4; 1.10.7–1.10.14; 1.10.16–1.10.17	These recommendations have been updated to reflect NICE house style:

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