

GUIDELINES

Management of obesity: summary of SIGN guideline

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Why read this summary?

In Scotland 68.5% of men, 61.8% of women, 36.1% of boys, and 26.9% of girls are classified as overweight or obese.¹ The cost of obesity and obesity related illnesses to the NHS in Scotland was estimated to be £171m (€190m; \$273m) in 2001,² and forecasts in England suggest that NHS expenditure attributable to these conditions could double between 2007 and 2050.³ Being obese at age 40 reduces life expectancy by 7.1 years for women and 5.8 years for men.⁴ Given the massive detrimental effect of obesity on health and wellbeing, all health professionals should know how obesity should be managed. This article summarises the most recent recommendations from the Scottish Intercollegiate Guidelines Network (SIGN) on the management of obesity.⁵

Recommendations

SIGN recommendations are based on systematic reviews of best available evidence, and the strength of the evidence is indicated as A, B, C, or D (figure). Recommended best practice (“good practice points”), based on the clinical experience of the Guideline Development Group, is also indicated (as GPP).

Obesity and overweight in adults

Classification

Use body mass index (BMI) to classify overweight or obesity in adults (B):

- Less than 18.5—underweight
- 18.5-24.9—normal range
- 25-29.9—overweight
- 30-34.9—obesity I
- 35-39.9—obesity II
- 40 or more—obesity III.⁶
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Waist circumference may be used in addition to BMI to help assess the risk of obesity related comorbidities (C). Waist circumference cut-off values for an increased risk of obesity related health problems are:

- Women: 80 cm or more
- Men: 94 cm (Asian men 90 cm) or more.^{6,7}

Prevention and identification of high risk groups

- Help prevent obesity by emphasising healthy eating (www.food.gov.uk/images/pagefurniture/ew

[platelarge14dec09.jpg](#)) (GPP), encouraging physical activity, and reducing sedentary behaviour (B).

- Encourage patients to weigh themselves (B).
- Be aware that patients at higher risk of obesity include those planning to stop smoking and those prescribed drugs that are associated with weight gain (C). Offer interventions for managing weight to patients in these groups (B).

Assessment

- Seek a weight history, including previous attempts to lose weight (GPP).
- Discuss willingness to change with patients, and target weight loss interventions according to their willingness around each behavioural component required for weight loss (www.healthscotland.com/uploads/documents/2976-Healthy_Living_Readiness_Ruler_2_pages.pdf) (D).
- Beware of the possibility of binge eating disorder in patients who have difficulty losing weight and maintaining weight loss (C).
- Advise patients of the following health benefits associated with sustained modest weight loss:
 - Improved lipid profiles (A), improved glycaemic control (B), and reduced blood pressure (B)
 - Lower risk of diabetes (B)
 - Lower mortality from cancer, diabetes, and all causes in some patient groups (B)
 - Lower osteoarthritis related disability (A)
 - Improved lung function in patients with asthma (B).

Treatment

Treatment targets

Base weight loss targets on comorbidities and risks, rather than on weight alone:

- Patients with a BMI over 35 are likely to have obesity related comorbidities, and weight loss interventions should aim to improve these comorbidities. Many will need to lose more than 15-20% of their weight (over 10 kg) for a sustained improvement in comorbidities (GPP).
- Patients with a BMI of 25-35 are less likely to have obesity related comorbidities, and a 5-10% weight loss (around 5-10 kg) is needed to reduce the risk of

This is one of a series of *BMJ* summaries of new guidelines, which are based on the best available evidence; they highlight important recommendations for clinical practice, especially where uncertainty or controversy exists. Further information about the guidance and a list of members of the Guideline Development Group are in the full version on bmj.com.

cardiovascular and metabolic disease (GPP).

- Patients from certain ethnic groups (for example, South Asians) are more susceptible to the metabolic effects of obesity, and related comorbidities are likely to occur at lower BMI cut-off points; tailor thresholds to individual needs (GPP).

When evaluating the success of any intervention, include a measurement of improvement in comorbidities as well as absolute weight loss (GPP).

Weight management programmes

- These should include dietary change, physical activity, and behavioural components (A).
- Consider evidence based weight management programmes delivered through the internet as part of a range of options (B).
- Do not offer clinical weight loss interventions without considering the patient's willingness to make long term changes or providing support for maintaining the weight loss (C).

Dietary interventions

- Calculate dietary interventions for weight loss to produce a 2.5 MJ (600 kcal) energy deficit each day and tailor these to the patient's dietary preferences (A).
- When discussing dietary change with patients, emphasise achievable and sustainable healthy eating (GPP). This includes reducing the intake of energy dense foods (including foods containing animal fats, other high fat foods, confectionary, and sugary drinks) by selecting foods with a

low energy density instead (such as wholegrain foods, cereals, fruit, vegetables, and salads) and reducing consumption of "fast foods" and alcohol (B).

Physical activity

For overweight and obese people, prescribe a volume of physical activity equal to 7.5-10.45 MJ (1800-2500 kcal) a week. This corresponds to 225-300 minutes a week of moderate intensity physical activity (for example, five sessions of 45-60 minutes a week) (B).

- Such activity increases the rate of breathing and body temperature, but at a pace that still allows comfortable conversation (GPP).
- For obese people this can often be achieved through brisk walking (GPP).
- Physical activity can be accumulated over the course of the day in several small sessions of at least 10 minutes' duration (GPP).
- Sedentary people should build up their physical activity targets over several weeks (GPP).

Behavioural interventions

Target psychological and behavioural interventions to the individual and their circumstances (GPP).

Psychological and behavioural treatments include:

- Situational control including avoidance of cues to unhealthy eating
- Self monitoring of food intake
- Goal setting that includes relapse prevention strategies
- Cognitive strategies to replace negative thinking with more positive statements.

The grade of recommendation relates to the strength of the supporting evidence on which the evidence is based. It does not reflect the clinical importance of the recommendation

A

- At least one high quality meta-analysis, systematic review of randomised controlled trials, or randomised controlled trial with a very low risk of bias and directly applicable to the target population; or
- A body of evidence consisting principally of well conducted meta-analyses, systematic reviews of randomised controlled trials, or randomised controlled trials with a low risk of bias directly applicable to the target population, and demonstrating overall consistency of results

B

- A body of evidence including studies rated as high quality systematic reviews of case-control or cohort studies, and high quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relation is causal and which are directly applicable to the target population, and with overall consistency of results; or
- Extrapolated evidence from studies described in A

C

- A body of evidence including well conducted case-control or cohort studies with a low risk of confounding or bias and a moderate probability that the relation is causal and which are directly applicable to the target population and with overall consistency of results; or
- Extrapolated evidence from studies described in B

D

- Non-analytic studies, such as case reports, case series, expert opinion; or
- Extrapolated evidence from studies described in C

Good Practice Points (GPP)



Recommended best practice based on the clinical experience of the guideline development group

Explanation of SIGN grades of recommendations

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Pharmacotherapy

Consider orlistat or sibutramine as an adjunct to lifestyle interventions (A), but only where diet, physical activity, and behavioural changes are supported (GPP).

Bariatric surgery

Include this as part of the overall clinical plan for adults (GPP). Consider this after individual assessment of risk-benefit in patients with all three of the following:

- BMI of 35 or more (C)
- One or more severe comorbidities that are expected to have a meaningful clinical improvement with weight reduction (for example, severe mobility problems, arthritis, type 2 diabetes) (C)
- Evidence of completion of a structured weight management programme that covered diet, physical activity, and psychological and drug interventions but did not result in significant and sustained improvement in comorbidities (GPP).

Seek specialist psychological or psychiatric opinion as to which patients require assessment or treatment before or after surgery (GPP). Binge eating disorder, dysfunctional eating behaviour, history of intervention for substance misuse, psychological dysfunction, and depression are not absolute contraindications for surgery (C).

Obesity in children and young people

Classification

- Overweight: BMI \geq 91st centile (GPP)
- Obese: BMI \geq 98th centile (D)
- Severe obesity: BMI \geq 99.6th centile (GPP)
- Very severe obesity: BMI $>$ 3.5 standard deviations above the mean (GPP)
- Extreme obesity: BMI $>$ 4 standard deviations above the mean (GPP).⁸

Prevention

The principles for preventing obesity in adults are equally relevant for children and young people. Although preventive measures will probably require a broad range of interventions across all settings, most studies have been conducted in schools. School based interventions should be considered across all planners and providers of services. Actively facilitate involvement of the parents and family (C).

Treatment

Lifestyle interventions should be family based, involving at least one parent or carer, and should encourage behaviour changes that aim to change the whole family's lifestyle (B).

Weight loss and maintenance can be achieved only by sustained behavioural changes, such as:

- Eating more healthily and decreasing energy intake
- Increasing habitual physical activity (60 minutes of moderate to vigorous physical activity each day)
- Reducing sedentary behaviour (such as watching television) to less than two hours each day (D).

For overweight and most obese children, weight maintenance is an acceptable goal (D).

Annual monitoring of the child's BMI centile may be appropriate to reinforce weight maintenance (D).

For children with a BMI on or above the 99.6th centile, gradual weight loss to a maximum of 0.5-1.0 kg each month is acceptable (D).

Refer to hospital or specialist paediatric services before starting treatment if either of the following applies:

- The child may have a serious obesity related morbidity that needs treatment
- An underlying medical cause is suspected (this should include all children under 24 months who have severe obesity) (D).

Prescribe orlistat or sibutramine only for severely obese adolescents with comorbidities, or adolescents with very severe or extreme obesity; they should be attending a specialist clinic with regular reviews and monitoring for side effects (D).

Consider bariatric surgery for postpubertal adolescents with very severe to extreme obesity and severe comorbidity (D).

Overcoming barriers

The scale of the obesity epidemic makes it difficult to manage every overweight and obese person through clinical services; social and environmental changes, food education, and community based interventions are needed. However, all health professionals should be able to recognise obesity and its related comorbidities and access resources to manage obesity. Currently, obesity is poorly recognised and documented.⁹ Clinicians do not feel they have expertise, or access to expertise, in weight management,¹⁰ and some doubt whether it is within their remit.¹¹ In paediatrics, lack of time, lack of training, and the poor motivation of patients were seen as major barriers to tackling childhood obesity in a clinical setting.¹²

Management of obesity cannot remain the domain of a few individuals with a specialist interest. All health professionals should receive appropriate training, from undergraduate level onward, along with information about local resources. For obesity to be given the priority it deserves in clinical services, negative attitudes towards this condition and its causes must be checked. We need to move from blaming the individual towards treating this modifiable cause of severe ill health and premature mortality.¹³

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10-MINUTE CONSULTATION

Female stress urinary incontinence

Rebecca Daniel,¹ Christian David Mallen,¹ Jason Cooper²

A 55 year old postmenopausal woman presents with episodes of leaking urine exacerbated by coughing and exercise. She has had three vaginal deliveries, two of which were instrumental. Her symptoms have worsened since menopause and she often has to wear a pad

What issues you should cover

Female urinary incontinence is common and increases with age. Prevalence ranges from 10% to 50% but fewer than half of affected women consult primary care.

A clear history of symptoms and a good obstetric and gynaecological history are essential, as is a history of bowel habits, as constipation can be associated with stress incontinence. Differentiating between stress and urge incontinence is important as they often exist together and treatment options differ. Elicit a medication history— α blockers and diuretics could worsen symptoms—and a smoking history.

Although urinary incontinence can occur in nulliparous women, risk factors include pregnancy, childbirth, age, obesity (BMI >30), and postmenopausal status. Prolonged labour and instrumentation increase the chance of incontinence in later life. Prolapse and prolapse surgery are often associated with urinary incontinence.

Symptoms include leakage of urine with activities that increase intra-abdominal pressure, such as laughing, coughing, and sneezing. In severe cases standing up or walking can cause leakage.

Duration of symptoms is important. Many women learn to adjust their lifestyle around their symptoms. Find out why the patient is seeking help now—has some-

thing changed? Ask about their need to change clothing, use of pads, and daily intake of fluids, particularly caffeine (normal daily fluid intake is around 2.3 l).

Psychological and social effects are important. Determine the consequences of symptoms on quality of life—loss of self esteem can result in low mood, sexual dysfunction, and reduced confidence.

Exclude red flag symptoms and signs that suggest immediate referral: microscopic haematuria in women aged 50 and older, gross haematuria, suspected pelvic mass, and persistent or recurrent urinary tract infections with haematuria in women older than 40.

What you should do

Examination

Measure height and weight and record body mass index.

Examine the abdomen and pelvis to rule out masses and chronic urinary retention with overflow.

Assess lower limb and perianal sensation, if clinically indicated, to rule out any focal neurological deficit.

Examine the vagina for signs of uterine prolapse, prolapse of other pelvic structures, and atrophy. Assess pelvic floor muscle strength by inserting one or two fingers into the lower third of vagina and asking the patient to squeeze. Strength of contraction can be rated using

USEFUL RESOURCES

www.nice.org.uk/CG40

www.sign.ac.uk/pdf/sign79.pdf

www.bladderandbowelfoundation.org

www.patient.co.uk/health/Stress-Incontinence.htm

Pantazis K, Freeman R. Investigation and treatment of urinary incontinence. *Curr Obstet Gynaecol* 2006;16:344-52

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the Oxford scale (0=no contraction, to 5=strong contraction). Note duration of contraction.

Ask the patient to cough while you examine for signs of urinary leakage to assess weakness of the pelvic floor.

Investigations

Perform a urine dipstick and send urine for microscopy and culture if infection is indicated. Asymptomatic patients with a negative urine dipstick are unlikely to have urinary tract infections. If urine analysis shows persistent microscopic haematuria, refer to a urologist for consideration of cystoscopy and renal imaging.

A bladder diary over three to seven days is useful. Ask patients to document when and how much they drink, and when and how much they void, when they are incontinent, and what sort of activity triggered incontinence. A diary is particularly useful if the patient seems to have mixed symptoms. For example, good volumes of 400 ml passed every four hours may fit a stress picture; small volumes of 50-100 ml passed every hour would fit an overactive bladder.

Validated questionnaires such as the International Consultation on Incontinence Questionnaire (ICIQ) can be used to assess severity and quality of life as part of history and bladder diaries.

Urodynamics is not needed before a trial of conservative management in uncomplicated cases. For clear cases of stress incontinence, NICE does not advise urodynamics and cystometry before surgical management.

Management

Explain the diagnosis and provide written information on stress incontinence.

Lifestyle changes should be the first line of management. Encourage and provide support for weight

loss in overweight or obese patients. Suggest smoking cessation and attention to type and volume of fluid intake.

The next line of treatment is pelvic floor muscle training (PFMT) and bladder education, ideally supervised by a specialist physiotherapist. An explanation alone is often insufficient to ensure correct technique. Exercises should be performed as advised for three months and continued if found to be useful.

Biofeedback and electrical stimulation can be used in combination with PFMT although evidence for their effectiveness is not conclusive.

Duloxetine, a serotonin-norepinephrine re-uptake inhibitor, also used in depression, is the only drug licensed for use in stress incontinence. The recommended dose is 40 mg twice a day. NICE does not recommend duloxetine as first line treatment for stress incontinence, but suggests it as an option for women with moderate to severe stress urinary incontinence who would like an alternative to surgery. The drug is thought to be more effective when used with PFMT.

Topical oestrogens might improve discomfort and vaginal dryness during intercourse in women with vaginal atrophy although there is no evidence that they treat stress urinary leakage.

If these measures fail, the next step would be for specialist opinion and assessment at local urogynaecological or urological services.

No benefit in the management of stress urinary incontinence has been shown for oral hormone replacement therapy, complementary therapy, transcutaneous electrical nerve stimulation machines, or vaginal cones in the presence of adequate pelvic floor contractions.

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ANSWERS TO ENDGAMES, p 485. For long answers go to the Education channel on bmj.com**STATISTICAL QUESTION****Cohort studies**

Answers *b* and *d* are true, whereas *a* and *c* are false.

CASE REPORT A series of unfortunate events

- 1 The likelihood of future suicide should be estimated during an unhurried and sympathetic interview by establishing the motivation for, and circumstances of, the suicidal ideas or act in question, as well as the presence of known risk factors. It is useful to obtain a collateral history from a friend or relative if possible. The three most important risk factors for future suicide are current suicidal intent, history of suicide attempts, and presence of a psychiatric disorder. Once you have inquired after risk factors and have an understanding of the patient's circumstances you should be able to form an opinion on the patient's suicide risk.
- 2 It may be possible to discharge patients who are thought to be at low risk to the care of their general practitioner for follow-up, whereas those with moderate risk will probably need an urgent appointment with a community mental health team or involvement of a home treatment team. Patients thought to be at high risk may need hospital admission and possible assessment under appropriate mental health legislation. Follow-up services will consider whether further interventions—for example, psychotherapy and pharmacotherapy—are appropriate. This patient was thought to be at moderate risk because of continuing suicidal intent and access to lethal drugs. He was admitted informally to a psychiatric inpatient unit.
- 3 Two broad approaches to reducing the total number of suicides exist. The first is to take steps at a population level; an example of this is to sell paracetamol in smaller size packs. The second involves targeted strategies, such as evidence based treatments, aimed at high risk groups of whom healthcare professionals should be aware.