Obesity information for pilots and air traffic controllers

Obesity & health

Obesity is defined as a state of excess adiposity, with or without abnormal distribution or function of adipose tissue. The causes of obesity are considered to be multifactorial and incompletely understood at present. Body mass index (BMI) may be used (with caution) as a practical measure of obesity according to the National Institute for Health and Clinical Excellence (NICE) guidance. BMI is calculated by dividing a person's weight in kilograms by the square of their height in metres BMI calculator (see Table 1). In addition to BMI, other measures of adiposity and cardiometabolic risk, such as the body roundness index (BRI) or waist to height ratio (WHtR), may also be used as part of a broader clinical assessment. BRI incorporates height and waist circumference to provide an estimate of body fat distribution. WHtR adjusts for body size and provides additional information on obesity-related health risk.

Table 1: Classification of BMI

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

Being overweight or obese can substantially increase the risk of acute and chronic medical conditions summarised in Table 2:

Table 2: Relative risks of health problems associated with obesity

Greatly increased risk	Moderately increased risk	Slightly increased risk
Type 2 diabetes	Coronary heart disease	Some cancers
Insulin resistance	Hypertension	Reproductive hormone abnormality
Gallbladder disease	Stroke	Impaired fertility
Dyslipidaemia	Osteoarthritis	Polycystic ovary disease
Breathlessness	Hyperuricaemia (Gout)	Low back pain
Sleep apnoea	Psychological factors	Anaesthetic risk

Obesity prevention and management typically involve a combination of lifestyle measures, including attention to diet, physical activity, and broader behavioural and environmental factors. In addition to, and alongside lifestyle modifications, medical and surgical management options may be appropriate for some individuals, depending on overall risk profile, comorbidities, and clinical judgement.

Obesity may be secondary to a number of particular endocrine / hormonal conditions and this guidance should be read in conjunction with general or specific guidance related to the individual condition.

Treatments that affect medical certification

Orlistat

Orlistat or other medications which reduce the absorption of dietary fat (by inhibiting the enzyme lipase), when combined with a change in lifestyle, can be used to treat obesity in individuals with a BMI in excess of 30 or in excess of 28 if other risk factors such as hypertension, diabetes or high cholesterol are present.

Although available over the counter (OTC), applicants should discuss these treatments with their GP or AME. OTC orlistat, often sold under brand names, typically contains a 60mg dose, which blocks around 25% of dietary fat absorption. Prescription orlistat, usually 120mg per capsule, blocks up to 30% of fat absorption. It is recommended that OTC orlistat is obtained from a pharmacy regulated by the General Pharmaceutical Council (GPhC) for authenticity and safety.

Initiation: Applicants should be assessed as unfit for a period of at least 2 weeks upon starting treatment. A subsequent fit assessment should be made by an aeromedical examiner (AME) which includes confirmation of no side effects that could impair aeromedical fitness (including flatulence, oily or leaky stools, abdominal pain and bloating, headaches and anxiety).

Dose adjustments: It is not anticipated that dose adjustments will occur in most cases; however, should there be any changes in dose, the applicant should be assessed as unfit for at least 72 hours. A clinical report (from a GP or specialist) explaining the rationale behind the dose adjustment should be made available to the applicant's AME for review without the need for referral to the CAA medical department.

GLP-1 receptor agonists (including combined GIP / GLP-1 receptor agonists)

GLP-1 receptor agonists given subcutaneously for obesity are compatible with all classes of certification (Class 1/2/3/LAPL). Oral formulations are not presently compatible due to the high potential variability in absorption profile.

Adverse effects upon initiation or dose increase can include diarrhoea, nausea, constipation and abdominal pain. These could theoretically be made worse with exposure to pressure change.

Initiation: Class 1/2/LAPL applicants should be assessed as unfit for a period of at least 2 weeks upon starting treatment. A subsequent fit assessment can be made by an aeromedical examiner (AME) which includes confirmation of no side effects that could impair aeromedical fitness. As ATCOs are not exposed to pressure change, a shorter unfit period of 1-week could be considered on a case-by-case basis.

Dose adjustments: Unfit for at least 72 hours. AME assessment not required for return to flying and/or controlling.

Other medications

Appetite suppressants are disqualifying for medical certification and they are not recommended for the treatment of obesity.

Surgery

Bariatric surgery promotes weight loss by altering the anatomy of the digestive system and limiting the amount of food that can be eaten / digested, for example, gastric bypass or gastric banding. It is a major procedure that is usually considered as an option if an individual's BMI is 40 or more, or between 35 and 40 if other risk factors that could be improved by a reduction in weight are

present. Other criteria also need to be fulfilled and this option should be discussed with a GP / specialist.

If it is deemed an acceptable clinical treatment applicants must notify their AME as initially an unfit assessment will be required for a period of up to 3 months post-surgery, which will be dependent upon the type of procedure performed and recovery. Endoscopic procedures will significantly reduce this period. Detailed reports will be required to confirm that there has been a full recovery from the procedure and an absence of any incapacitating side-effects. A final assessment with their AME will be required before applicants can be assessed as fit again. Any other treatment or procedure that applicants might be considering must be discussed with their AME.

Aeromedical considerations

Beside the potential impact to health, the nature of the operating environment in relation to BMI should also be considered.

A medical flight test (MFT) may be required to ensure that pilots can safely complete their checks, and have full and free movement to reach all switches and controls without any impedance. They will also need to demonstrate that they can safely and quickly prepare and evacuate the aircraft in case of an emergency. Separate tests may be required if they fly substantially different types of aircraft, for example, a commercial pilot who also undertakes private flying.

Air traffic controllers (ATCOs) with a BMI greater than 35 will need to undergo a functional workplace assessment (ATCO functional test) with their supervisor to ensure that they can work without restriction and evacuate their workplace quickly in the event of an emergency. This is particularly important if an ATCO is based in a control tower or a remote location.

Pilots of light aircraft are reminded that crew (and passenger) weights are important factors for aircraft performance and centre of gravity, and that accurate weights should be measured before flight.

Regulatory requirements

Initial applicants for a medical certificate issue should undergo further assessment, as set out below, if their BMI is 35 or above. Existing pilots / ATCOs whose BMI exceeds 35 require investigation within 2 months. A time limitation (TML) should normally be applied if a certificate is issued.

Assessment by AME, GP or medical specialist

AMEs may (but are not required to) refer to the UK CAA obesity assessment checklist in the metabolic and endocrinological guidance material to support the assessment:

- Medical history & lifestyle assessment, including physical activity, nutritional factors, alcohol intake, sleep quality and documentation of any features suggestive of obesity-related comorbidities
- BMI – recorded to support longitudinal monitoring.
- Waist circumference – as a validated marker for central (visceral) fat, which is a recognised risk factor for cardiometabolic disease. A WHtR of ≥0.5 is commonly associated with increased cardiometabolic risk and may prompt consideration of further assessment.
- Neck circumference – as a baseline tool to assess for possible sleep apnoea and upper body obesity. A neck circumference >40.6 cm is recognised as a risk factor for sleep apnoea and may prompt consideration of further assessment.
- Lipid profile – typically, a total cholesterol level over 5 mmol/L would require a review by the GP, with feedback provided to the AME.

- HbA1c – a result within the prediabetes range or indicative of diabetes should result in the applicant being advised to seek assessment by their own GP, with feedback provided to the AME.
- Urinalysis – as part of general metabolic and renal risk assessment.
- Blood pressure - if >140/90 mmHg, then the hypertension guidance material should be followed
- Epworth sleepiness scale score – to screen for excessive daytime sleepiness and potential sleep-related disorders.
- Cardiovascular risk assessment in accordance with the cardiovascular risk assessment flow chart in the cardiovascular system guidance

Medical flight test (MFT) or ATCO functional test

An MFT or ATCO functional test is required if the BMI exceeds 35 to ensure that applicants can safely exercise the privileges of their licence (see **aeromedical considerations**).

If the BMI increases by 2.5 points since the last MFT / ATCO functional test, then it shall be repeated.

Follow-up

If parameters, medical tests and the MFT / ATCO functional test are acceptable, further reviews with the AME (or GP who issued a LAPL) are required at each periodic medical examination until the BMI falls below 35.