**Risk factors for developing Type 2 diabetes include**:

• aged over 40

• male

• Asian or black ethnic background

• a family history of diabetes

• an increased BMI and/or waist circumference

• ever had high blood pressure, a heart attack or a stroke

• socioeconomic deprivation

• gestational diabetes

**HbA1c or FVPG test** for those identified at high risk to assess more accurately their future risk of diabetes. HbA1c of 42-47 mmol/mol) or FVPG of 6.1-6.9 mmol/l indicate that a person is at high risk of developing type 2 diabetes.

**Validated risk assessment score**: use the Cambridge risk score, the Leicester Risk Assessment Score, the Leicester Practice Risk score, QDiabetes or the NHS Health Check programme diabetes filter.

**Identifying type 2 diabetes development risk**: 2 stage approach (see NICE flowchart on page 3 below)

**Metformin Initiation to reduce the risk of diabetes**

1. Metformin can be offered in patients with an HbA1c above 42 mmol/mol who shows in 3-6 months they are still progressing towards type 2 diabetes, despite their participation in an intensive lifestyle-change programme, or who are unable to participate in lifestyle-change programmes because of a disability or for medical reasons.
2. Clinical judgement should be used to decide whether (and when) to offer standard-release metformin to support lifestyle change for people whose HbA1c or fasting plasma glucose blood test results have deteriorated. Benefits and limitations of taking metformin should be discussed.
3. Advise that there may be a need to take metformin for the rest of their lives and inform about possible side effects.
4. Explain that long-term lifestyle change can be more effective than drugs in preventing or delaying type 2 diabetes.
5. Continue to offer advice on diet and physical activity along with support to achieve their lifestyle and weight-loss goals.
6. Start with a low dose (for example, 500 mg once daily) and then increase gradually as tolerated, to 1500–2000 mg daily. If the person is intolerant of standard metformin consider using modified-release metformin.
7. Prescribe metformin for 6–12 months initially. Monitor the person's fasting plasma glucose or HbA1c levels at 3-month intervals and stop the drug if no effect is seen.

**Managing people at high risk of developing type 2 diabetes**

**Orlistat initiation to reduce the risk of diabetes**

1. Adults who have a BMI of 28.0 kg/m2 or more, whose blood glucose measure (fasting plasma glucose or HbA1c) shows they are still progressing towards type 2 diabetes. In particular, who are not benefiting from lifestyle-change programmes, or are unable to participate in physical activity because of a disability or for medical reasons may be offered orlistat.
2. Use clinical judgement on whether to offer orlistat to people with a BMI of 28.0 kg/m2 or more, as part of an overall plan for managing obesity. Take into account the person's risk and the level of weight loss and lifestyle change required to reduce this risk.
3. Discuss the potential benefits and limitations of taking orlistat and its side effects.
4. Advise the person to follow a low-fat diet that provides no more than 30% of daily food energy as fat, distributed over three main meals a day. Offer information and regular support from a dietitian or another appropriate healthcare professional.
5. Agree a weight-loss goal with the person and regularly review it .
6. Review the use of orlistat after 12 weeks. If the person has not lost at least 5% of their original body weight, use clinical judgement to decide whether to stop the orlistat. However, as with adults who have type 2 diabetes, those at high risk of the condition may lose weight more slowly than average, so less strict goals may be appropriate.
7. Use orlistat for more than 12 months (usually for weight maintenance) only after discussing the potential benefits, limitations and side effects with the person concerned.

**Achieve and maintain a healthy weight:**

* 1. BMI of 25kg/m2 or less. For people of Asian (including Chinese), African or African Caribbean origin, and aim for a BMI of less than 23kg /m2- the evidence is less strong for black people.
  2. Waist circumference of less than 80cm (31.5 inches) for all women; less than 94cm (37 inches) for white or black men; less than 90cm (35 inches) for Asian men.
  3. Diet- if overweight or obese, reduce energy intake, through reducing portions sizes except for fruit and vegetables and following ‘Eat a healthy diet’advice below.
  4. Set an initial weight loss target of 5–10%. If weight loss is difficult to achieve, aim to prevent weight gain. If weight target is achieved, discuss whether further weight loss targets can be set.
  5. Aim for a maximum weekly weight loss of 0.5 – 1kg after the first 3 weeks of losing weight (initially weight loss can be greater).

**Eat a healthy diet**

1. Reduce/ low intake of alcohol, sweet and fatty foods (particularly those high in saturated and trans-fatty acids)
2. Reduce portion sizes, except for fruit and vegetables, unless fruit intake is exceptionally high, for people trying to lose weight.
3. Encourage regular meals
4. Use high-fibre, low-glycaemic-index sources of carbohydrate in the diet, such as fruit, vegetables, whole-grains and pulses;
5. Include low-fat dairy products and oily fish.
6. Discourage the use of foods marketed specifically for people with diabetes

**Be physically active:**

1. Adults should aim to be active daily.
2. Over a week, activity should add up to at least 150 minutes (2.5 hours) of activity that raises the heart rate (moderate intensity) in bouts of 10 minutes or more – one way is to do 30 minutes on at least five days a week.
3. Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous intensity activity.
4. It is advised that people not used to activity gradually build up their levels, starting with 10 minutes activity blocks.
5. All adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

**Healthy eating advice**

1. NHS choices provides healthy eating advice and information- [www.nhs.uk/livewell/healthy-eating/Pages/Healthyeating.aspx](http://www.nhs.uk/livewell/healthy-eating/Pages/Healthyeating.aspx)
2. Swindon diabetes website ([www.swindondiabetes.co.uk/support/helpful-diet-information/](http://www.swindondiabetes.co.uk/support/helpful-diet-information/)) has dietary advice.

**Referral to lifestyle services from Swindon Borough Council**

**The Live Well Hub** is one stop shop for Swindon residents to access a range of lifestyle programmes including stopping smoking, weight management, walking groups, cycling, supervised gym sessions, disability sport and other wellbeing support services. Health Professionals can refer to this service. Some services are free and some have a small cost. Individuals can self-referral to Live Well Swindon by contacting the Hub Contact: **Tel 01793 465513** or email livewell@swindon.gov.uk or livewellswindon@nhs.net

**Local weight management courses:**

1. **Weight Watchers** or **Dietbusters** or **Slimming World** -Free 12 weeks of adult weight management programme through Swindon Borough Council through health professional referral for adults meeting this inclusion criteria
   * + aged 16 years or over, and
     + have a body mass index (BMI) of 30 kg/m2 or greater or a waist circumference of 94cm or more in men or of 80cm or more in women, and
     + are ready to tackle their weight, and meet at least one of the following criteria:
     + have type II diabetes and /or are eligible for free prescriptions and/or have a mild learning disability and/or are on the mental health register and are able to attend groups and /or booked for elective hip or knee replacement surgery and BMI of 35 or more.

Referral- see section above. Patients will have to pay for these programmes if they do not meet the criteria. These programmes all follow NICE guidance

1. **Healthy Habits for Body and Mind** through Lift Psychology service- Free 4 week course held once a week for 2 hours in a group format, aiming to help people feel more motivated to make dietary changes and learn techniques to help overcome some of the common difficulties. It includes topics such as managing unhelpful thoughts and feelings, setting realistic goals, differences between physical and emotional hunger, and dealing with urges to eat when not physically hungry. Patients can book a free place via the website [www.seqol.org/lift-psychology](http://www.seqol.org/lift-psychology) or call 01793 835710 or 01793836836.
2. **Football Fans in Training**- for men aged 35–65 years with a BMI of ≥ 28 kg/m2 or a waist circumference of 38 inches or more. This costs £5/ session- <http://stfitc.co.uk/?p=5395>

**On-line recourses:**

1. **NHS Choices weight loss programme** ([www.nhs.uk/livewell/weight-loss-guide/Pages/weight-loss-guide.aspx](http://www.nhs.uk/livewell/weight-loss-guide/Pages/weight-loss-guide.aspx)) includes a free 12 week weight loss online programme.
2. **Swindon diabetes website** ([www.swindondiabetes.co.uk/diabetes-care-swindon/services/weight-management-services/](http://www.swindondiabetes.co.uk/diabetes-care-swindon/services/weight-management-services/)) has local weight management information.
3. **Diabetes UK “ Know your risk” https://www.diabetes.org.uk/Guide-to-diabetes/What-is-diabetes/Know-your-risk-of-Type-2-diabetes/?gclid=CJrQ8dmY384CFYcK0wodcQwI6Q**

**References**

* Public Health England. Everybody active, every day: An evidence-based approach to physical activity. London, 2014. Available from -[www.gov.uk/government/publications/everybody-active-every-day-a-framework-to-embed-physical-activity-into-daily-life](http://www.gov.uk/government/publications/everybody-active-every-day-a-framework-to-embed-physical-activity-into-daily-life)
* National Institute for Health and Clinical Excellence. NICE public health guidance 38. Type 2 diabetes: prevention in people at high risk. London, 2012. Available from -[www.nice.org.uk/guidance/ph38](http://www.nice.org.uk/guidance/ph38)
* National Institute for Health and Clinical Excellence. NICE clinical guidance 189. Obesity: identification, assessment and management. London, 2014. Available from - [www.nice.org.uk/guidance/cg189](http://www.nice.org.uk/guidance/cg189).

**Local physical activity resources:**

1. **Dietbusters programme** (see Local weight management courses above) provides 45 minutes of physical activity at an individualised level each week for 12 weeks. This course is suitable for people with physical disabilities as it is adapted to individual need.
2. **Swindon Health Walks** ([www.walkingforhealth.org.uk/walkfinder/south-west/swindon-health-walks](http://www.walkingforhealth.org.uk/walkfinder/south-west/swindon-health-walks)). Includes 14 free weekly walks, including three groups offering a weekly 20 minute gentle walk and one incorporating gentle seated exercises. The seated exercises can be used for people with certain disabilities. Contact: Emma Sperring; tel. 01793 465413; email ESperring@swindon.gov.uk .
3. **Park run**, a free weekly 5km timed run- [www.parkrun.org.uk/swindon/](http://www.parkrun.org.uk/swindon/)
4. **Shin Splints** a free weekly running club who support those who want a gentle introduction to running- <http://gouldings.wix.com/swindon-shin-splints>
5. **Cycling-Learn to Ride**. Free spaces available on weekly sessions at County Ground Athletics Track, including for people with disabilities. Several different types of adaptive bikes are available. Most bikes can switch from free-wheel to fixed wheel systems; this means that users who have difficulty pulling pedals upwards or completing full circles can be aided by continuous turning and momentum. Contact: Ben Humphrey on 01793 465404 or email [bhumphrey@swindon.gov.uk](mailto:bhumphrey@swindon.gov.uk) or contact referral to lifestyle service - see information on this sheet.
6. **Disability sport**- provides a range of sporting opportunities for people with learning and/ or physical disabilities. Contact Ben Humphrey- see above point. <http://www.disabilitysportswindon.co.uk>

**On-line recourses:**

1. **Swindon travel choices** ([www.swindontravelchoices.co.uk/](http://www.swindontravelchoices.co.uk/)) offer a comprehensive range of information on walking and cycling in Swindon, including a walking journey planner, a Swindon cycle map and ideas for local, circular walks.
2. **NHS choices** ([www.nhs.uk/livewell/fitness/Pages/Fitnesshome.aspx](http://www.nhs.uk/livewell/fitness/Pages/Fitnesshome.aspx)) includes information on getting fitter, including home exercise workouts, podcasts to increase flexibility or to help you to start running (from couch to 5K).
3. **Swindon diabetes website** ([www.swindondiabetes.co.uk/diabetes-care-swindon/services/physical-activity-services/](http://www.swindondiabetes.co.uk/diabetes-care-swindon/services/physical-activity-services/)) has local physical activity information.
4. **The Mental Health Foundation** offers a range of free wellbeing audio podcasts, which include physical activity - [www.mentalhealth.org.uk/help-information/podcasts/](http://www.mentalhealth.org.uk/help-information/podcasts/)

**Useful resources**

ICE Flowchart: identifying and managing risk of type 2 diabetes. ([www.nice.org.uk/guidance/ph38](http://www.nice.org.uk/guidance/ph38)