

SUMMARY: A Position Statement on Screening and Management of Prediabetes in Adults in Primary Care in Australia



Prediabetes refers to elevated blood glucose levels above normal ranges but not meeting the diagnostic criteria for diabetes. It includes impaired fasting glucose (IFG), impaired glucose tolerance (IGT) and raised glycated haemoglobin (HbA1c). One third of people with prediabetes develop type 2 diabetes within ten years.

- 1. Risk factors for prediabetes include:**
age, ethnicity, family history of diabetes, history of gestational diabetes mellitus, polycystic ovary syndrome, overweight/obesity, waist circumference, unhealthy diet, sedentary behaviour, poor sleep, smoking, metabolic syndrome and medications that can induce hyperglycaemia.
- 2. The Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK)** estimates the risk of progression to type 2 diabetes over 5 years and should be used as a formal screening tool in individuals with risk factors. Those at intermediate (score 6-11) or high risk (score ≥ 12) should be tested for prediabetes.
- 3. Diagnosis of prediabetes** is by a 75g oral glucose tolerance test (OGTT), fasting blood glucose (FBG) or HbA1c:
 - IFG is defined as FBG of 6.1-6.9 mmol/L.
 - IGT is defined as 2-hour blood glucose 7.8-11.1 mmol/L in an OGTT.
 - HbA1c of 6.0-6.4% is recommended as the definition of prediabetes.
- 4. Management of prediabetes should be individualised**, multipronged and multidisciplinary, with the general practitioner acting as the lead coordinator.
 - A multidisciplinary team may include a nurse practitioner, practice nurse or credentialled diabetes educator, accredited dietitian, exercise physiologist, physiotherapist and pharmacist.
 - A Medicare Chronic Disease Management Plan can be utilised to engage allied health professionals if the individual has additional chronic health conditions.
 - Person-centred approaches with the individual being an active participant and incorporating individual preferences, health literacy, cultural background, age and comorbidities are most effective.
- 5. Lifestyle strategies are effective** in preventing or delaying the progression of prediabetes to type 2 diabetes and are recommended for all with prediabetes. These include targeted weight reduction, healthy eating, physical activity, stress management, improved sleep and smoking cessation. Structured, intensive lifestyle intervention has strong evidence of benefit in those with IGT but have added cost and burden. Lifestyle interventions resulting in weight loss of 5-10% halve the risk of developing type 2 diabetes.
 - Dietary advice should follow the Australian Dietary Guidelines. There is a range of evidence-based diets. Very low calorie diets (VLCD) with meal replacement products and regular dietetic support are effective for weight loss and reduction of blood glucose in people with prediabetes.
 - Both aerobic and resistance exercise have been demonstrated to improve insulin resistance and delay the development of type 2 diabetes. Exercise programs should be tailored to the individual with the use of accredited physiotherapists and exercise physiologists. 150-300 minutes per week of moderate to vigorous intensity aerobic and resistance exercise is recommended, in addition to reduction in sedentary behaviour.
 - Structured group education programs targeting lifestyle and behaviour change have been shown to be beneficial, when used in conjunction with ongoing management from the primary care team. Programs should be evidence-based, and utilise a variety of techniques covering knowledge, understanding, self-management and self-determination.
 - Psychological care should be included in management plans in individuals with prediabetes, who are at higher risk of depression, anxiety and diabetes-related distress. These individuals may have a reduced capacity to engage in daily health management behaviours. Referral to counsellor, psychologist or psychiatrist should be considered when appropriate.

6. Overall evidence for the **utility of glucose-lowering agents** in diabetes prevention is limited, with no TGA-approved medications available. Metformin has the strongest evidence, with some reports supporting the use of acarbose, thiazolidinediones, liraglutide and combination phentermine and topiramate.
7. **Bariatric surgery** has been found to be more effective than usual care in the prevention of progression to type 2 diabetes.

In line with the RACGP guidelines, individuals with prediabetes are at low risk of hypoglycaemia and therefore self-monitoring of blood glucose is not recommended. Annual testing of HbA1c is recommended. The frequency of monitoring other metabolic outcomes such as weight, lipids and blood pressure should be tailored to the individual.

Acknowledgement:

This summary of the position statement has been prepared by Jina Rhou, Tessa Weir and Glynis P. Ross (Royal Prince Alfred Hospital Sydney) following the publication of the ADS, ADEA, ESSA, DAA and PSA: Bell K, Shaw JE, Maple-Brown L, Ferris W, Gray S, Murfet G, Flavel R, Maynard B, Ryrie H, Pritchard B, Freeman R, Gordon BA. A position statement on screening and management of prediabetes in adults in primary care in Australia. Diab Res Clin Pract 164:1-12, 2020