شركة الصحة القابضة
Health Holding Company
North Business Unit

Model of Care
Chronic Care

Diabetes – Diagnosis and Screening

This clinical sub-pathway is part of the system level Diabetes pathway and it focuses on the diagnosis and screening of diabetes. This pathway covers the detection of type 2 diabetes and prediabetes in adults and does not apply to pregnancy screening or children <16 years. However, the investigations below will also detect type 1 and monogenic diabetes.

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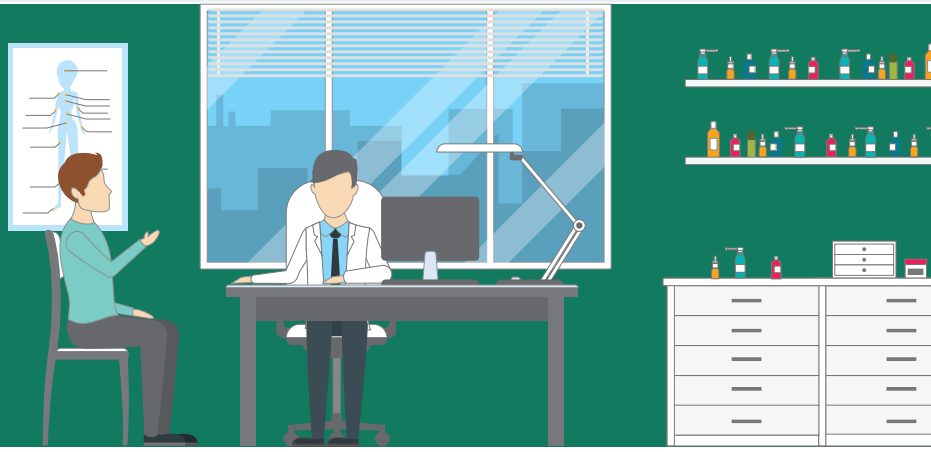
Assessment



Screening

To detect diabetes and pre-diabetes:

1. Arrange screening by 8 hour fasting plasma glucose test.
   - All adults aged 35 years or older
   - Overweight adults aged 18 or over with BMI greater than or equal to 25kg/m2 or abdominal obesity greater than 102cm for men and 88cm for women AND one or more of the following risk factors:
   - Children age 10 to 17 inclusive, if BMI above 85th percentile AND one or more of the following risk factor:
   - When carrying out cardiovascular risk assessment (Risk of Atherosclerotic Cardiovascular Disease (ASCVD))
   - Exclusion criteria, as per the following:
2. Diabetes to be confirmed by fasting plasma glucose (proper 8 hour fast), HbA1c, or 75g 2-hour oral glucose tolerance test (OGTT).
   - Capillary blood testing should not be used to diagnose T2DM
   - Subjects should be encouraged to have a proper eight hours fasting
   - HbA1c testing dose not require fasting and should be avoided in subjects with any type of anaemia, haemoglobinopathies, chronic kidney disease, and post-transfusion
   - OGTT is not commonly used to screen T2DM
3. Screening intervals will depend on the risk but usually every 3 years in adults and children. If the patient is identified as pre-diabetic screen every year.

Interpretation

1. Diagnose diabetes on one blood test if the patient has HbA1c ≥ 50 mmol/mol and symptoms of hyperglycaemia, as per the following:
2. If HbA1c ≥ 47 mmol/mol (6.5 %), or fasting blood glucose ≥ 6.9 mmol/L, or random blood glucose RBS ≥ 11 mmol/L, repeat with HbA1c (preferred) or a fasting glucose.
   - If the second test is elevated, diagnose diabetes
   - If the second test is not elevated, retest in 3 to 6 months
   - If the HbA1c and fasting glucose are discordant with a diagnosis of diabetes, repeat test in about 3 to 6 months, as per the following:

     These results will detect all types of diabetes. Consider type 1 diabetes if the patient is not obese, has a blood glucose > 15, and has ketonuria
3. Diagnose prediabetes if HbA1C (39 to 47 mmol/mol) (5.7 to 6.4 %), or fasting blood glucose (5.6 to 6.9 mmol/L or 100-125mg), or random blood glucose (7.8 to 11 mmo/L or 140-199 mg).
4. Diabetes is unlikely if HbA1c ≤ 39 mmol/mol and, if measured, FBG ≤ 5.6 mmol/L. Other blood tests that confirm diabetes.
   - Two FBG results ≥ 7 mmol/L on two different days. An OGTT is not required
   - RBG > 11 mmol/L on two different days
   - One diagnostic value (i.e., FBG or RBG) if it is unequivocally elevated and the patient has symptoms of hyperglycaemia
   - An OGTT with either FBG ≥ 6.9 mmol/L and/or the 2-hour blood glucose at two hours ≥ 11 mmol/L

Management

Determine the type of diabetes and manage appropriately:

- Prediabetes
- Type 2 diabetes
- Type 1 diabetes

  Consider type 1 diabetes if the patient:

  Type 1 diabetes commonly occurs at younger ages but can develop any time between infancy and old age.

  If type 1 diabetes is likely, seek advice from secondary care or the Diabetes Centre. Initial of management of type 1 diabetes patients is conducted at secondary care and diabetes centre. If the patient is stable and their physician is in agreement, the patient can be managed at the primary care level.
- Monogenic diabetes

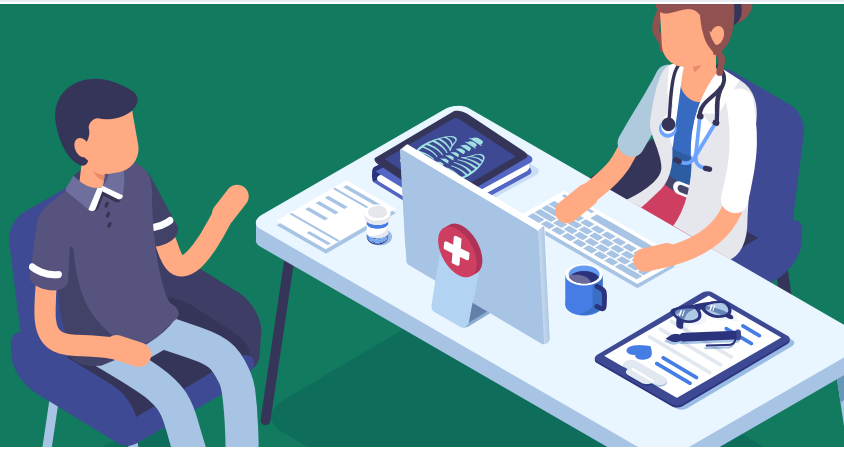
  Most familial diabetes is due to type 2 diabetes clustering in families that have a propensity towards obesity.

  If some family members develop diabetes aged < 25 years and/or are slim, consider monogenic ('genetic') causes of diabetes:

  If suspected, refer to diabetic centre for specialist care to determine the best genetic tests, which are expensive.

  For more information, see the Monogenic Diabetes Guideline

Request



- If type 1 diabetes, monogenic diabetes, or uncertainty about the type or unusual presentation, poorly control diabetes, pre-existing or gestational diabetes on insulin, request referral to diabetic centre for specialist care

Information

For health professionals

- SNDC Diabetes Screening Program
- Diet and Physical Activity for Patients

For patients

- Information folder for patients on healthy:
  - Eating
  - Cooking
  - Diabetes Self Care (all diabetic patients)
  - Diabetes Self Care (adults)
- MOH Patient Information Website

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