



CLINICAL GUIDELINE

Diabetes, CV Risk Factors

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	3
Does this version include changes to clinical advice:	No
Date Approved:	18 January 2021
Date of Next Review:	06 January 2023
Lead Author:	Andrea Llano
Approval Group:	Medicines Utilisation Subcommittee of ADTC

Important Note:

The Intranet version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

CARDIOVASCULAR DISEASE

Individuals with symptoms of cardiovascular disease or who are over the age of 40 years and have Type 1 or Type 2 diabetes should be considered at high risk ($\geq 30\%$ risk over 10 years) of cardiovascular events.

Angina

- Diabetic patients with angina should be managed in accordance with the NHSGGC guideline for the management of angina. Diabetic patients with new-onset chest pain suggestive of coronary heart disease should be referred for fast track chest pain assessment in accordance with this guideline.
- Beta-blocker therapy (or a rate-limiting calcium channel blocker, long-acting nitrate or nicorandil in those intolerant of beta-blockers) should be commenced for first line symptomatic treatment in accordance with the GGCNHS angina guideline. Insulin therapy is not a contraindication to the use of B-blockers.
- ACE inhibitors should be given to patients with diabetes and any of the following:
 - post MI with or without left ventricular dysfunction;
 - heart failure due to left ventricular dysfunction;
 - cardiovascular, cerebrovascular or peripheral arterial disease.
- Statin therapy to reduce cholesterol should be initiated according to the NHS GGC cholesterol guidelines.
- Aspirin (75mg per day) should be given routinely and continued long term in patients with diabetes and existing cardiovascular disease in accordance with the NHS GGC guideline on anti-platelet therapy.
- Diabetic patients with worsening symptoms of angina despite medical therapy should be re-referred to cardiology in accordance with the NHS GGC angina guideline.

Myocardial Infarction and Acute Coronary Syndromes

- Patients with diabetes should be treated as all other STEMIs. +
- All should receive intensive insulin treatment for at least 24 hours following acute MI.

Antiplatelet Therapy

There is a lack of evidence for benefit from low-dose aspirin therapy in reducing cardiovascular events when used for primary prevention in people with diabetes, and evidence of harm with an increase in gastrointestinal bleeding and haemorrhagic strokes. Low-dose aspirin is not recommended for primary prevention of vascular disease in patients with diabetes.

MANAGEMENT OF HYPERTENSION IN TYPE 2 DIABETES

The reader is directed to the NHS GGC guidelines for The Diagnosis and Management of Hypertension (available on [StaffNet](#)). These guidelines describe the correct methods for BP measurement as well as an algorithm for diagnosing hypertension.

A target BP of <130/80mmHg is recommended for patients with diabetes. In non-acute stroke and diabetic nephropathy, there is evidence of benefit from lowering blood pressure well below this target. It is recognised that despite best practice, such targets may not be reached in all patients.

Prescribing guidelines

1. The GGCNHS guidelines recommend the A C D algorithm (A = ACE-I or Angiotensin II receptor blocker, C = calcium channel blocker, D = diuretic).
2. People who are younger than 55 years and white tend to have higher renin concentrations than those who are older than 55 or black. (A) drugs are therefore recommended in particular as initial therapy in white patients < 55 years.
3. Beta-blockers are now relegated to fourth-line agents.
4. ACE-I therapy and/or A II receptor blockers are recommended as first line treatment for patients with type 2 diabetes who have microalbuminuria or proteinuria. (A II receptor blockers are restricted to patients with significant cough on ACE-Is.) These drugs appear to slow progression of renal damage compared to other drugs for a given BP reduction.
5. With the exception of bendroflumethiazide (BFZ), the starting dose of a drug can be increased if BP remains above target. If there is no further effect from an increased dose or if side effects develop, then the lower dose should be reinstated. If the addition of a drug shows no benefit or is not tolerated then it should be discontinued. Smaller doses of 2 or more drugs rather than larger doses of one drug may give a better efficacy/tolerability profile.

MANAGEMENT OF LIPIDS IN TYPE 2 DIABETES

Hypercholesterolemia is an important reversible risk factor for cardiovascular disease and should be tackled aggressively in all diabetic patients.

- In Type 1 patients, normal or high HDL-cholesterol concentrations are often seen. However, an elevated HDL-cholesterol is not associated with the same cardio-protective effect as in non-diabetic individuals.
- The characteristic dyslipidaemia of type 2 diabetes is mild hypercholesterolemia, low HDLcholesterol and hypertriglyceridemia.
- Triglyceride concentrations are elevated by poor diabetic control. Triglycerides may improve with good diabetic control, attention to diet, reduced alcohol consumption and an increase in exercise. Otherwise, drug treatment may be indicated.

Screening for Dyslipidaemia

- In most cases lipids are checked yearly at the annual review.
- Assess more frequently (4-6 months), if lipid-lowering therapy is prescribed – to ensure compliance and reaching of targets (see below).

WHICH SAMPLES SHOULD BE ASSESSED?

Total cholesterol, and triglycerides should be requested. For ease, non-fasting estimation is usually adequate.

MANAGEMENT (See NHS GGC Lipid Guidelines)

Lifestyle Advice

- Reinforce dietary advice and optimise glycaemic control.
- Provide weight reduction diet for those with BMI > 25.
- If BMI > 30, set target of 5-10 kg weight loss.
- Increase fruit and vegetable consumption (5 portions per day).
- Increase oily fish consumption (2 portions per week).
- Reduce saturated fat intake.
- Encourage regular exercise.

Exclude (and treat) Secondary Causes of Hypercholesterolemia

- Hypothyroidism.
- Nephrotic Syndrome.
- Cholestasis.
- Drugs (e.g. diuretics, corticosteroids).

1. Patients with type 1 or 2 diabetes < 40 years and other important risk factors e.g microalbuminuria, should be considered for primary prevention lipid-lowering drug therapy with simvastatin 40 mg.
2. Patient with diabetes > or = 40 years of age are at high risk and should be treated as per secondary prevention.

For full guidance in the management of dyslipidaemia please refer to the NHS GGC Guideline for the Management of Cholesterol (available on [StaffNet](#)).