

### About this series

The aim of the "How to" series is to provide readers with a guide to clinical procedures and aspects of diabetes care that are covered in the clinic setting.

## What and why

NG286 on type 2 diabetes management states that we refer to the recommendations in CG1815 on cardiovascular disease and the NICE pathway for myocardial infarction 4 on how to diagnose and manage dyslipidaemia in people with type 2 diabetes.

### Risk assessment

CG181<sup>5</sup> recommends using QRisk®2 2017 to calculate cardiovascular risk (www.grisk.org). However, the JBS3 risk assessment tool offers some additional features, such as explaining life years gained by modifying risk factors (www.jbs3risk.com).

## **Useful definitions**

- Primary prevention of CVD: interventions that aim to prevent or delay the onset of CVD in people who have no clinical evidence of CVD.
- Secondary prevention of CVD: interventions that aim to reduce the impact and prevent the progression of the disease in people with established CVD (e.g. angina, peripheral vascular disease, previous myocardial infarction or stroke).

### **Baseline monitoring**

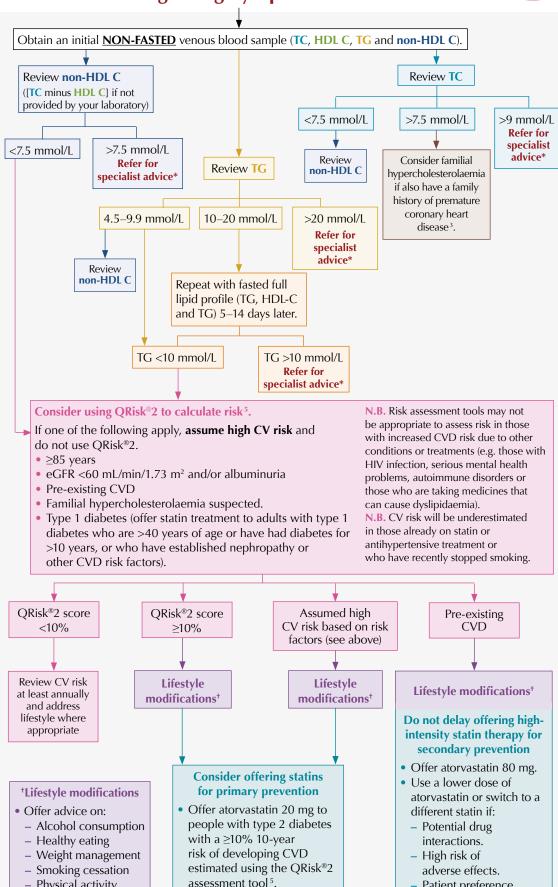
Smoking status, alcohol consumption, blood pressure, BMI, HbA<sub>16</sub>, renal function and eGFR, transaminase levels, thyroid-stimulating hormone.

\*Remember to identify and manage remediable causes of elevated lipids (e.g. poor glycaemic control or excess alcohol intake if elevated TGs) if possible prior to referral.

Physical activity

Refer to CG1815.

# Diagnosing dyslipidaemia



Patient preference.



# Monitoring dyslipidaemia

Before initiating a statin, check **TC**, **HDL C**, **non-HDL C** and LFTs with a **NON-FASTED** venous blood sample.

3 months after initiation with statin treatment, recheck **TC**, **HDL C**, **non-HDL C** and LFTs with a **NON-FASTED** venous blood sample.

This applies for both primary and secondary prevention<sup>5</sup>.

Aim for a >40% reduction in **non-HDL C** 

NOTE: Alternatively, the JBS3 consensus<sup>2</sup> recommends aiming for a **non-HDL** C <2.5 mmol/L.

## **Ongoing monitoring**

• CG181<sup>5</sup> recommends an annual review for all people on statins.

An approach in which statins are simply prescribed and the cholesterollowering effect is NOT checked (sometimes referred to as "fire and forget") has previously been adopted.

However, it should be noted that cholesterol targets apply for people with diabetes <sup>1</sup> and evidence suggests that annual lipid monitoring in primary prevention promotes adherence <sup>7</sup>.

• Consider using the JBS3 risk calculator or QRisk®2 to motivate lifestyle change and concordance by demonstrating heart age and life years lost and gained by the various interventions, such as stopping smoking, statin and blood pressure medication.

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### **Useful abbreviations**

CK: Creatine kinase CVD: Cardiovascular disease eGFR: estimated glomerular filtration rate HDL: High-density lipoprotein LFTs: Liver function tests non-HDL C: non-HDL cholesterol TC: Total cholesterol TG: Triglycerides

NICE has not checked the use of its content in this article to confirm that it accurately reflects the publication from which the content is taken.

#### References

- <sup>1</sup>ADA (2004) Dyslipidemia management in adults with diabetes. *Diabetes Care* **27** (Suppl 1): 68–71
- <sup>2</sup>JBS3 Board (2014) Joint British Societies' consensus recommendations for the prevention of cardiovascular disease (JBS3) Heart 100 (Suppl 2): 1–67
- <sup>3</sup>NICE (2013) Familial hypercholesterolaemia: identification and management [CG71]. NICE, London
- <sup>4</sup>NICE (2013) Myocardial infarction: secondary prevention overview. NICE, London. Available at: http://bit.ly/2oHR4Ar (accessed 13.04.17)
- <sup>5</sup>NICE (2014) Cardiovascular disease: risk assessment and reduction, including lipid modification [CG181]. NICE, London
- <sup>6</sup>NICE (2015) Type 2 diabetes in adults: management [NG28]. NICE, London
- <sup>7</sup>Wei L et al (2007) Effectiveness of two statin prescribing strategies with respect to adherence and cardiovascular outcomes: observational study. *Pharmacoepidemiol Drug Saf* **16**:

## Statin prescribing tips

- Do NOT routinely exclude from statin therapy people who have liver transaminase levels that are raised but are <3 times the upper limit of normal.
- Measure liver transaminase enzymes (alanine aminotransferase or aspartate aminotransferase) within 3 months of starting treatment and at 12 months, but not again unless clinically indicated.
- Do NOT measure CK levels in asymptomatic people who are being treated with a statin. If muscle pain is present prior to statin use, check CK prior to starting statin; if >5 times the upper limit of normal, repeat after 7 days. Do not start statin if CK remains >5 times normal. If elevated but <5 times normal, start lower-dose statin.</li>
- Aim to treat with the maximum tolerated dose. If person reports adverse effects when taking statins, discuss:
  - Stopping the statin and try again when symptoms have resolved, to check whether symptoms are related to the statin.
  - Reduce the dose within the same intensity group.
  - Change the statin to a lower intensity group.



Advise women of child-bearing potential of the teratogenic risk of statins. Stop statins 3 months prior to conception and do not restart until breastfeeding is complete. Document that this advice has been shared.

Local pathway notes		