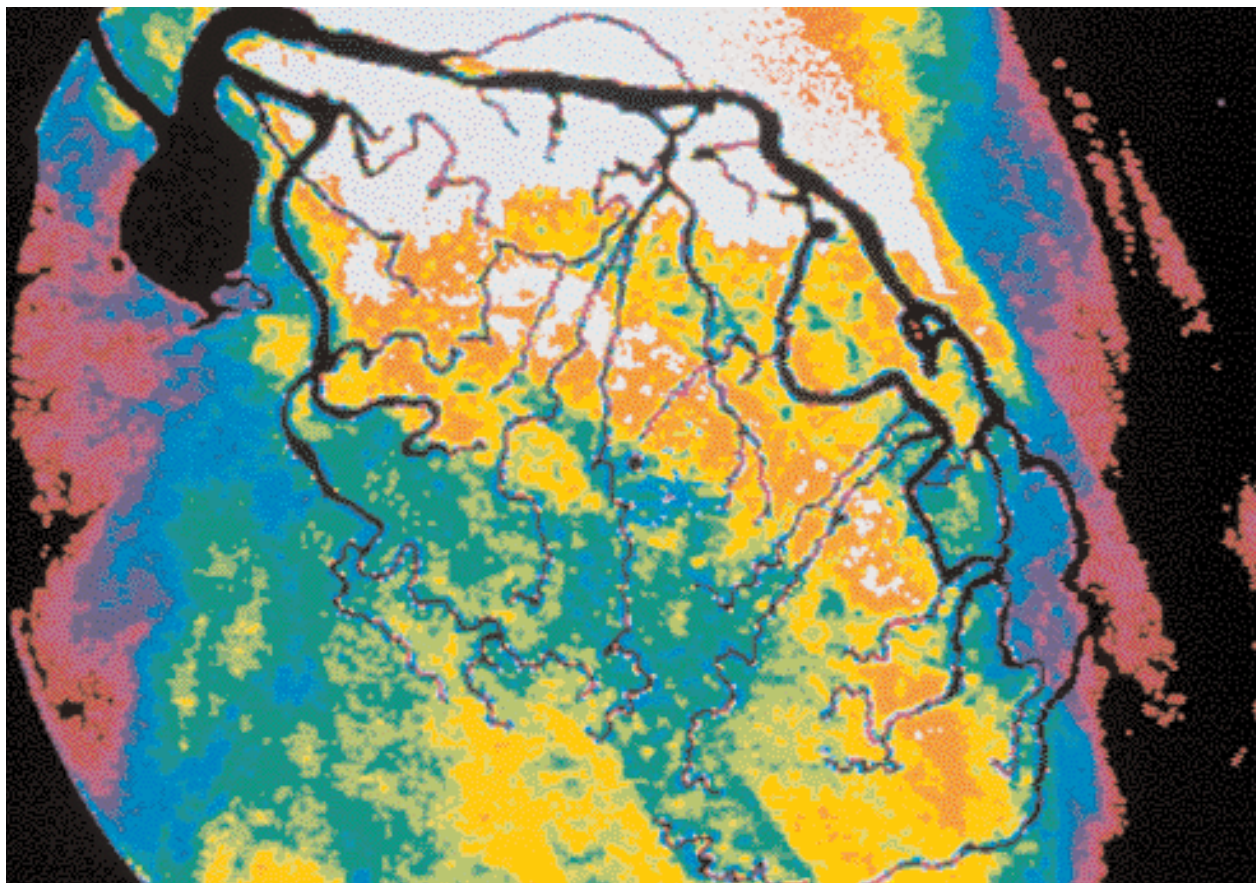


Systematic risk assessment key to CVD prevention

AUTHOR
Dr Peter Savill
BSc MBBS PGDipCard
GPwSI cardiology,
Southampton



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How should risk assessment be carried out?

Which patients should receive statin therapy?

How should patients be monitored?



CARDIOVASCULAR DISEASE (CVD) CONTINUES TO BE THE LEADING CAUSE OF

mortality, accounting for one in three deaths in England and Wales. In 2005, there were 124,000 deaths attributed to CVD. Around 39,000 of these fatalities were in patients under 75. For every death, there are at least two major non-fatal CVD events.

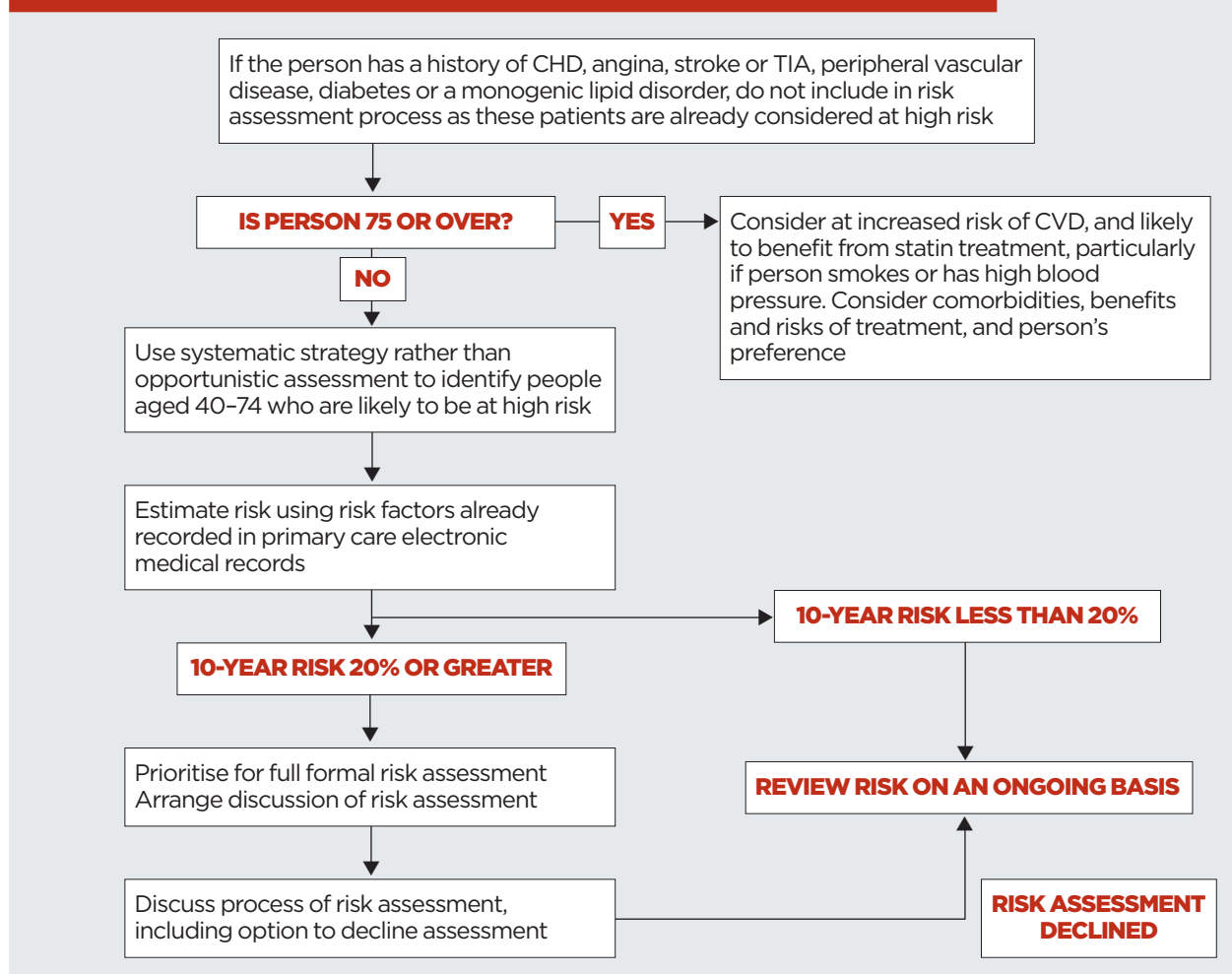
In May, NICE issued an evidence-based guideline on lipid modification,¹

which addresses the identification of those at high risk of CVD and the modification of lipids in both the primary and secondary prevention of CVD.

It has long been known that cholesterol is a key modifiable risk factor in CVD prevention, with both lifestyle modification and drug treatment pivotal in cholesterol management. However, the guidance does not lose sight of the fact that a multifactorial approach to risk management is of paramount importance.

RISK ASSESSMENT

At present in primary care there is a transition from opportunistic risk assessment of patients to a more structured approach because of changes in the QOF and Department of Health plans to offer screening for CVD. The NICE guidance focuses initially on the systematic assessment of cardiovascular risk. »

Figure 1. Algorithm for identifying people for full formal risk assessment


National Institute for Health and Clinical Excellence (2008). Lipid modification: cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease (NICE 2008). London: NICE. Available from www.nice.org.uk Reproduced with permission.

NICE recommends that initial estimation of risk should be based on a modified version of the 1991 Framingham 10-year risk equations,² rather than newer risk algorithms such as QRISK.³ However, the guideline points out that risk estimation tools only provide an approximate CVD risk and that interpretation of risk scores should always reflect clinical judgement.

The guideline development group acknowledges that research is needed 'to adjust Framingham for use in the UK population, to assess the use of ASSIGN in UK populations outside Scotland, to validate QRISK in independent and clinical datasets and to assess the performance of the scores against each other.'

GPs should focus on those aged 40–74, initially using data already held in the primary care record such as age, sex and blood pressure (see figure 1, above). This facilitates the identification of patients who would benefit from a more rigorous risk assessment: namely those with an estimated 10-year CVD risk of >20%.

Formal risk assessment (see figure 2, p22) should include:

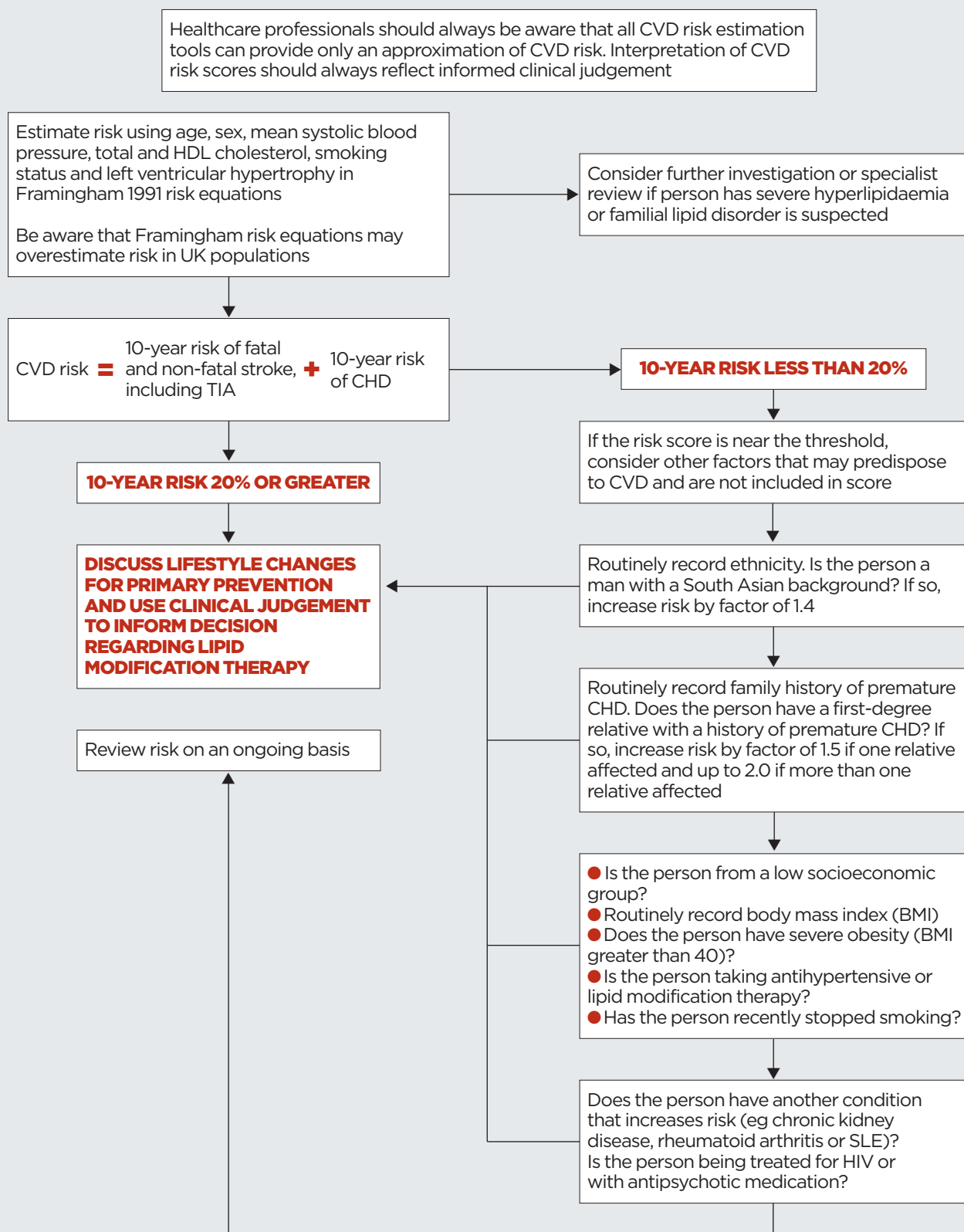
- Systolic blood pressure (mean of previous two readings)
- Total cholesterol
- HDL cholesterol
- Smoking status
- The presence of left ventricular hypertrophy.

It is important to remember to incorporate variables such as ethnicity, BMI and a family history of premature heart disease when calculating risk. Premature heart disease is defined as

age at onset <55 years in a male or <65 years in a female first-degree relative. The guideline recommends the following risk adjustments:

- One first-degree relative with premature heart disease: multiply risk by 1.5
- Two or more first-degree relatives with premature heart disease: multiply risk by 2
- South Asian men: multiply risk by 1.4.

All patients with established CVD should be excluded from risk assessment. This includes patients with diabetes and chronic kidney disease as well as those with coronary, peripheral and cerebrovascular disease. Patients who are deemed >>

Figure 2. Full formal risk assessment


National Institute for Health and Clinical Excellence (2008). Lipid modification: cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease (NICE 2008). London: NICE. Available from www.nice.org.uk Reproduced with permission.

key points

A multifactorial approach to CVD risk management

is of paramount importance, along with a systematic approach to the assessment of cardiovascular risk.

Patients with established CVD, chronic kidney disease,

diabetes and familial hyperlipidaemias should be excluded from risk assessment as they already have a substantial risk of CVD.

NICE recommends that initial estimation of risk should

be based on a modified version of the 1991 Framingham 10-year risk equations. GPs should focus on those aged 40–74, initially using data already held in the primary care record such as age, sex and blood pressure. The guidance emphasises the importance of explaining to patients clearly their absolute, rather than relative, risk.

Patients with an estimated 10-year CVD risk of >20%

need a formal risk assessment including systolic blood pressure, total cholesterol, HDL cholesterol, smoking status and the presence of left ventricular hypertrophy.

Risk scores should be adjusted according to ethnicity, BMI and family history of premature heart disease.

Cholesterol is a key modifiable risk factor in CVD

prevention with both lifestyle and drug treatment pivotal in cholesterol management.

Lifestyle factors such as diet, exercise, smoking and

alcohol intake should be addressed in all patients with >20% 10-year CVD risk. The routine use of plant sterols and stanols was not recommended because of a lack of evidence in patients at high risk of CVD.

Statin therapy should be initiated if diet and lifestyle

interventions are unsuccessful at lowering lipids. Simvastatin 40mg is the drug of choice for primary and secondary prevention.

NICE does not recommend a target level for either

total or LDL cholesterol for primary prevention and repeat lipid measurement was felt to be unnecessary. Target total cholesterol and LDL cholesterol for secondary prevention should be <4 mmol/l and <2 mmol/l respectively.

Patients with acute coronary syndrome should be

treated with a higher intensity statin, such as simvastatin 80mg or atorvastatin 40–80mg.

Creatinine kinase should be measured if the patient

develops suspected muscle problems with statins, but otherwise not routinely. Liver transaminases should be measured before initiating statin therapy and at three and 12 months.

Fibrates, anion exchange resins and nicotinic acid

should only be used in statin-intolerant patients. Ezetimibe should only be used in patients with primary hypercholesterolaemia.

to be at high risk of CVD on the basis of a single risk factor should also be excluded, such as those with familial hyperlipidaemias.

The guideline advocates the use of clinical judgement in the treatment of borderline cases in patients:

- With low socioeconomic status
- Severe obesity defined as BMI >40
- Who have recently stopped smoking
- Aged >75 years.

The guidance emphasises the importance of explaining to patients clearly their absolute, rather than relative, risk.

LIFESTYLE ADVICE

The guideline recommends that patients should be advised to:

- Consume a diet low in saturated fat and dietary cholesterol, with saturates replaced by monounsaturated and polyunsaturated fats. They should eat at least five portions of fruit and vegetables a day and two portions of fish per week, including a portion of oily fish.
- Exercise regularly, for example 30 minutes of moderate physical activity at least five days per week
- Stop smoking
- Limit alcohol intake to 3–4 units a day for men and 2–3 units a day for women.

The NICE guideline does not recommend the routine use of plant sterols and stanols to lower lipids and reduce CV risk because of the lack of evidence in patients at high risk of CVD. However, the use of such dietary measures is logical in the face of their proven lipid-lowering capabilities.^{4,5}

The guidance does not mention the role of reducing salt intake to lower blood pressure and hence reduce CV risk.

LIPID-LOWERING DRUGS

The guideline suggests that, before considering lipid-lowering drug treatment, a fasting lipid profile should be obtained if not already available, except in patients with acute coronary syndrome when it should be taken about three months after the index event.

Primary prevention

Lipid-lowering drug treatment is advised for patients with a 10-year CVD risk of >20%.

The decision to start lipid-lowering medication is usually made after

dietary and lifestyle intervention has failed to achieve the desired effect.

It is important to take into account all other modifiable risk factors, comorbidities and secondary causes of dyslipidaemia, with intervention as appropriate. Additional baseline blood tests such as fasting blood glucose, renal function, liver function and thyroid function should be considered.

NICE recommends simvastatin 40mg as the drug of choice. If this is contraindicated or not tolerated an alternative such as pravastatin should be considered.

The guideline does not recommend a target level for either total or LDL cholesterol for primary prevention. It also advises that repeat lipid measurement is unnecessary once statin treatment is initiated, with clinical judgement and patient preference guiding treatment review.

However, I personally do not feel entirely comfortable with this ‘fire and forget’ strategy and suspect that many GPs will work to audit standards (see below) for lipid levels in primary prevention, with periodic monitoring.

Secondary prevention

The key point in treating patients with established CVD is to start lipid-lowering drugs promptly and not delay treatment while correcting other modifiable risk factors. Again, simvastatin 40mg is the drug of choice. Patients with acute coronary syndrome should be treated with a higher intensity statin, such as simvastatin 80mg or atorvastatin 40–80mg.

An audit level of 5mmol/l for total cholesterol should be used, although the aim should be a total cholesterol of <4 mmol/l or LDL cholesterol <2 mmol/l as advocated by JBS2.⁶ Switching to high-intensity statin therapy should be considered early for patients who fail to achieve the 4/2 target.

The NICE guideline highlights the importance of potential drug or food interactions, such as grapefruit juice, macrolides, antifungals and fibrates,⁷ with statin therapy and possible »

SYMPOSIUM

CVD PREVENTION

muscular side-effects. Creatinine kinase should be measured if the patient develops suspected muscle problems, but otherwise not routinely.

Liver transaminases should be measured before initiating statin therapy and at three and 12 months. Patients with transaminase levels <3 times the upper limit of normal should not be routinely excluded from statin therapy. However, if a patient develops an unexplained peripheral neuropathy, statin therapy should be stopped and the patient referred to a specialist.

Alternatives to statin therapy such as fibrates and anion exchange resins should only be used in statin-intolerant patients. Nicotinic acid should not be offered for the primary prevention of CVD, and only for secondary prevention in statin-intolerant patients.

Ezetimibe should only be used in patients with primary hypercholesterolaemia.

CONCLUSION

The NICE guidance has further reiterated the importance of a structured approach to CV risk assessment and has outlined the central role of lipid management, in particular statin therapy, in the treatment and prevention of CVD. It is a useful document at a time when CV risk assessment is very much at the forefront of primary care. ●

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