

Cardiovascular Disease Risk Assessment

Updated 2013

**New Zealand Primary
Care Handbook 2012**

Introduction

A Cardiovascular Disease Risk Assessment (CVDRA) Steering Group was established to provide an update to the CVDRA component of the *New Zealand Primary Care Handbook 2012*.

This update addresses questions and management issues for clinicians working in primary care. New CVDRA equations will be available in 2014. Calculated combined CVDRA are simply approximations to position points on the continuum of risk. They are now generally estimated using an electronic calculator which gives a single number, rather than using the 2003 national Risk Charts which give a wider risk range.

It is emphasised that management options should be discussed with all patients. This discussion should include advice on taking a more graded approach to the intensity of management than previously recommended, according to an assessment of combined risk.

Combined risk replaces the term **absolute risk**.

The overarching principle is that the intensity of interventions should be proportional to the size of the estimated combined CVD risk. This remains unchanged from previous recommendations.

- All patients benefit from healthier lifestyles.
- Most patients with estimated five-year combined CVD risk below 10 percent can generally be well managed without drug treatment.
- For patients with estimated five-year combined CVD risk between 10 percent and 20 percent, a discussion about the benefits and harms of blood pressure (BP) lowering and lipid-lowering drugs should inform a shared decision either to initiate lifestyle measures only, or to add BP- or lipid-lowering drugs or both.
- Most patients with a combined CVD risk over about 20 percent in five years and all patients with a personal history of CVD are likely to benefit significantly from both BP- and lipid-lowering drugs and antiplatelet drugs, over and above intensive non-pharmacological interventions.

- Patients at any age with significant individual risk factors need to have them managed.

The overall goal is to reduce cardiovascular risk for individuals and/or provide appropriate advice about reducing the risk of developing diabetes.

This resource represents a statement of best practice based on evidence and expert consensus (at the time of publishing). It is not intended to replace the clinician's judgement and the patient's preferences in each individual case.

Shared treatment decisions should consider:

- the individual's clinical state, age, comorbidities and frailty
- personal preferences
- available research evidence.

With thanks to an expert advisory group: Ms Allie Crombie, Dr Andrew Hamer, Prof Rod Jackson, Prof Norman Sharpe, Mr Graeme Smith, Prof Les Toop, Dr Jim Vause and chair Prof Gregor Coster.

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Cardiovascular disease risk assessment

Shared treatment decisions should form the basis of managing cardiovascular risk, taking into account an individual's estimated five-year combined¹ cardiovascular risk and the magnitude of absolute benefits and the harms of interventions. It is recognised that people will interpret these risks differently and each will have their own risk thresholds and preferences.

This approach replaces clinical decisions based primarily on individual risk factor levels. Clinician recommendations can be strengthened where combined risk is higher or where individual risk factors are very high (see Table 3).

By knowing the combined risk, the clinician and patient can make decisions on more effective prevention and treatment of cardiovascular disease (CVD). These decisions include making choices about appropriate lifestyle change (principally diet, exercise and smoking), lipid-lowering and blood pressure (BP) lowering medication, antiplatelet medication, diabetes care, and medication after myocardial infarction (MI), stroke and other cardiovascular events.

¹ The word 'combined' is used to reflect the calculated risk based on the combined effects of known cardiovascular risk factors.

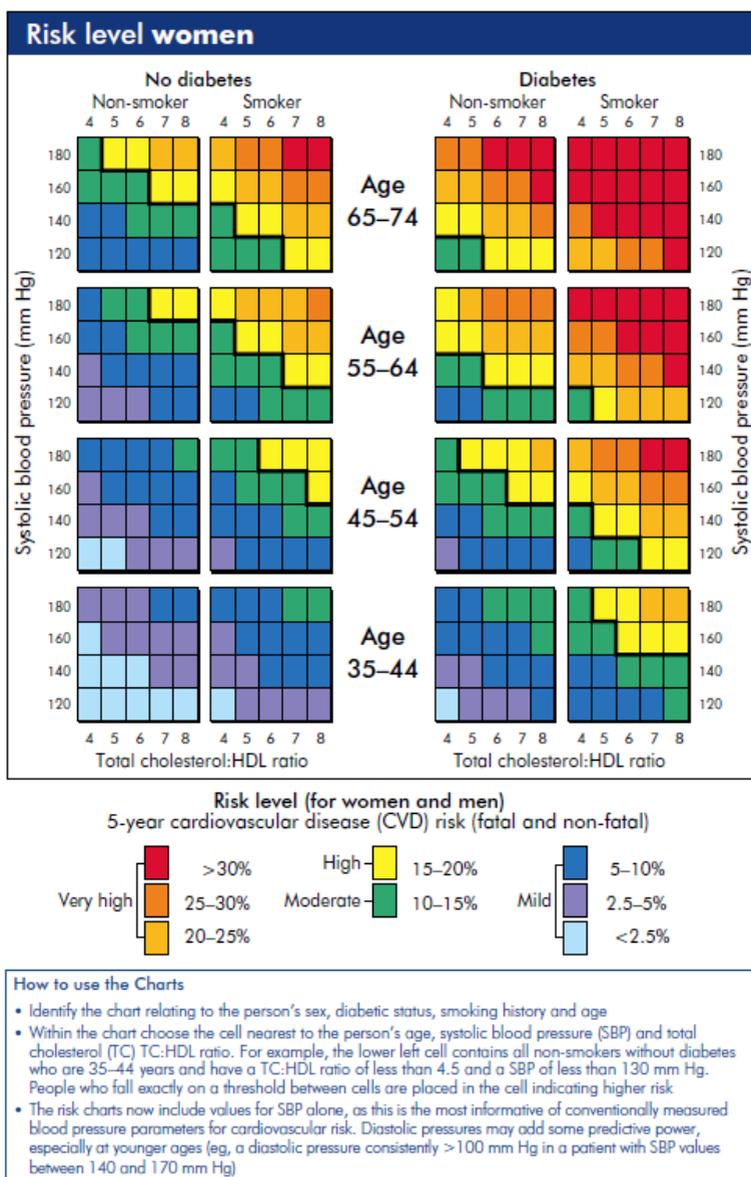
New Zealand Cardiovascular Risk Charts

To calculate an individual's five-year combined cardiovascular risk, use either the New Zealand adapted Framingham Cardiovascular Risk Charts (see Figure 1) or a validated electronic CVD risk calculator.

Note: These charts will be replaced by new risk prediction calculators based on New Zealand data in 2014. Preliminary equations derived from New Zealand data suggest that Framingham derived risk scores have overestimated risk.

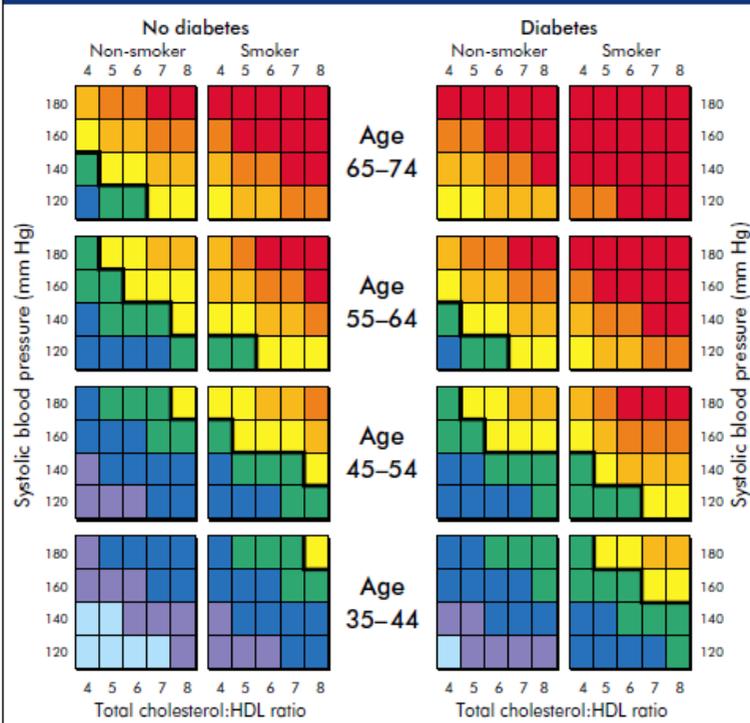
The recommended age to start cardiovascular risk assessment	See Table 1
What to measure and record for cardiovascular risk assessment	See Table 2
Include non-fasting blood tests as part of an assessment	See Table 2
Estimating five-year cardiovascular risk: when to use the New Zealand Cardiovascular Risk Charts	See Table 3
The recommended interventions, goals and follow-up based on cardiovascular risk assessment	See Table 5

Figure 1 New Zealand Cardiovascular Risk Charts



Certain groups may have CVD risk underestimated using these charts, see Table 2 (page 5) for recommended adjustments.

Risk level men



Risk level: 5-year CVD risk (fatal and non-fatal)	Benefits: NNT for 5 years to prevent one event (CVD events prevented per 100 people treated for 5 years)		
	1 intervention (25% risk reduction)	2 interventions (45% risk reduction)	3 interventions (55% risk reduction)
30%	13 (7.5 per 100)	7 (14 per 100)	6 (16 per 100)
20%	20 (5 per 100)	11 (9 per 100)	9 (11 per 100)
15%	27 (4 per 100)	15 (7 per 100)	12 (8 per 100)
10%	40 (2.5 per 100)	22 (4.5 per 100)	18 (5.5 per 100)
5%	80 (1.25 per 100)	44 (2.25 per 100)	36 (3 per 100)

NNT Number needed to treat

Based on the conservative estimate that each intervention: aspirin, BP treatment (lowering SBP by 10 mm Hg) or lipid modification (lowering LDL-C by 20%) reduces cardiovascular risk by about 25% over 5 years.

Note: Cardiovascular events are defined as myocardial infarction, new angina, ischaemic stroke, transient ischaemic attack (TIA), peripheral vascular disease, congestive heart failure and cardiovascular-related death.

Adapted with permission from: Rod Jackson, Head of the Section of Epidemiology and Biostatistics, School of Population Health, Faculty of Medical and Health Sciences, University of Auckland.

Table 1: The recommended age to offer cardiovascular risk assessment

Group	Men	Women
Asymptomatic people without known risk factors	Age 45 years	Age 55 years
Māori, Pacific peoples or Indo-Asian* peoples	Age 35 years	Age 45 years
People with other known cardiovascular risk factors or at high risk of developing diabetes	Age 35 years	Age 45 years
Family history risk factors		
<ul style="list-style-type: none"> • Diabetes in first-degree relative (parent, brother or sister) • Premature coronary heart disease or ischaemic stroke in a first-degree relative (father or brother <55 years, mother or sister <65 years) 		
Personal history risk factors		
<ul style="list-style-type: none"> • People who smoke (or who have quit only in the last 12 months) • Gestational diabetes, polycystic ovary syndrome • Prior blood pressure (BP) $\geq 160/95$ mm Hg (taken as a clinic BP), prior TC:HDL ratio ≥ 7 • HbA1c 41–49 mmol/mol • BMI ≥ 30 or truncal obesity (waist circumference ≥ 100 cm in men or ≥ 90 cm in women) • eGFR < 60 ml/min/1.73 m² † 		
People with diabetes (type 1 or 2)	Annually from the time of diagnosis	Annually from the time of diagnosis
* Indo-Asian peoples: Indian, including Fijian Indian, Sri Lankan, Afghani, Bangladeshi, Nepalese, Pakistani, Tibetan.		
† eGFR estimated glomerular filtration rate.		

Non-face-to-face cardiovascular risk assessment

It is reasonable to apply blood pressure, non-fasting TC, HDL-C and HbA1c (or fasting glucose) measurements that have been recorded during the previous five years if the person's circumstances **have not significantly changed**. The higher the risk level that is established in retrospect, the more important it is to establish a current estimate.

For an estimated five-year combined risk of less than 5 percent, then the risk can be reassessed within 10 years of the oldest recorded variable used in the non face-to-face calculation. However, all other people are likely to need a reassessment sooner; those with a risk above 10 percent should be reassessed as soon as practicable.

A primary care practitioner should communicate risk estimates to the patient. They should also allow every patient the opportunity for discussion, whatever their risk level, as all people can potentially benefit from discussion and lifestyle improvement.

For a cardiovascular disease risk assessment

Lipids

A single non-fasting TC:HDL ratio is used in the calculation of CVDRA. (Request a non-fasting lipid profile as fasting is not required for CVDRA.)

If the TC or the TC:HDL ratio is elevated above 8 mmol/L, repeat the test.

HbA1c

Use single non-fasting HbA1c to screen for diabetes at the same time as the lipid profile.

Genetic lipid disorders

There is possibility of a genetic lipid disorder if TC is ≥ 8 mmol/L and/or if there is a strong family history of premature coronary heart disease.²

Blood pressure

The risk assessment is based on a sitting blood pressure measurement undertaken in a clinic setting. Repeat a blood pressure measurement if the first is elevated.

The average of two seated BP measurements is recommended for the initial risk assessment.

² *New Zealand Primary Care Handbook 2012*, Appendix B, p 99.

Secondary causes of raised blood pressure

Secondary causes of raised BP include recent caffeine intake, high alcohol intake, sleep apnoea, oestrogen and glucocorticoid administration, anti-inflammatory agents, cyclosporin and use of sympathomimetics.

Rarer causes that require further investigation in severe or resistant hypertension (especially in younger individuals) are renal disease, coarctation of the aorta, renal artery stenosis, pheochromocytoma, Cushing's syndrome and Conn's syndrome.

Table 2: What to measure and record for cardiovascular risk assessment

History	<ul style="list-style-type: none">• Age• Gender• Ethnicity• Smoking status (if stopped smoking for <12 months, assess as a smoker)
Family history	<ul style="list-style-type: none">• Premature coronary heart disease or ischaemic stroke in a first-degree relative (father or brother <55 years, mother or sister <65 years)• Type 2 diabetes• Genetic lipid disorder*
Past medical history	<ul style="list-style-type: none">• Past history of CVD (MI, PCI, CABG, angina, ischaemic stroke, TIA, peripheral vascular disease [PVD])• Genetic lipid disorder (FH, FDB, FCH)*• Renal impairment (eGFR <60 if under age 75)• Diabetes• Atrial fibrillation
Measure	<ul style="list-style-type: none">• Average of two sitting BP measurements – one sitting measurement if not above 160/95; two sitting measurements if the first is above 160/95• BMI, waist circumference (optional, may be useful for management)• Non-fasting lipid profile• HbA1c (may be misleading in some circumstances. If there are concerns about its validity in any individual, then fasting plasma glucose is recommended)

* *New Zealand Primary Care Handbook 2012, Appendix B, p 99.*

Table 3: Estimating five-year cardiovascular risk: when to use the New Zealand Cardiovascular Risk Charts

Risk group	Estimating risk
Very high risk groups: five-year risk assumed clinically >20%	<p>These people should be allocated to the high risk category due to their clinical condition:</p> <ul style="list-style-type: none"> • previous CVD event: angina, MI, percutaneous coronary intervention (PCI), coronary artery bypass grafting (CABG), transient ischaemic attack (TIA), ischaemic stroke, peripheral vascular disease • some genetic lipid disorders: familial hypercholesterolaemia (FH), familial defective ApoB (FDB), familial combined dyslipidaemia (FCH) • diabetes with overt nephropathy (albumin:creatinine ratio 30 mg/mmol OR urinary albumin 200 mg/L) • diabetes with other renal disease causing renal impairment (eGFR \leq60 ml/min/1.73 m²).
People aged 35–74 years: calculate the five-year combined CVD risk	<p>Calculate five-year risk using the New Zealand Cardiovascular Risk Charts or a validated electronic decision-support tool (stand-alone or incorporated into most practice software).</p> <p>Atrial fibrillation confers additional risks over and above that calculated by current CVDRA.</p> <p>These groups should be moved up one risk category (5%):</p> <ul style="list-style-type: none"> • family history of premature coronary heart disease or ischaemic stroke in a first-degree relative (father or brother <55 years, mother or sister <65 years) • Māori, Pacific peoples or Indo-Asian peoples* • diabetes with microalbuminuria[†] persistent proteinuria OR for duration \geq10 years OR with HbA1c consistently \geq64 mmol/mol.
People aged <35 years with known risk factors	<p>All calculations outside the age ranges of the Framingham equation are approximations, but can be useful:</p> <ul style="list-style-type: none"> • aged under 35 years: calculate the risk as if they were 35 years. The result can be used to guide shared decision-making. Some risk factors in young people might require more intensive intervention or specialist referral. Using Risk Charts is an option for discussing future risks with people • low HDL <0.7 mmol/L (because of the risk of a genetic lipid disorder) • known familial dyslipidaemias or suspected genetic lipid disorders • type 1 diabetes, type 2 diabetes with microalbuminuria or type 2 diabetes of long duration (10 years) (for CVD risk calculator for those with diabetes, see www.nzssd.org.nz/cvd).

Risk group	Estimating risk
People aged 75 years and older, depending on co-morbidities	<p>The evidence base to inform recommendations for lipid lowering in primary prevention in the elderly is limited. An assessment of the balance between the harms and benefits of treatment is more difficult in older than in younger people.</p> <p>Older people gain a similar relative benefit from cholesterol lowering, but are more likely to benefit in absolute terms (over the same time period) because of their much higher pre-treatment of cardiovascular risk. However, comorbidity is more common and the time available to derive benefit will be shorter. Similarly, the patient's expectations should be taken into account in the shared decisions.</p> <p>Smoking cessation is beneficial at any age.</p>
<p>Note: For those people with very high levels of single risk factors – TC ≥8 mmol/L, TC:HDL ratio ≥8 mmol/L, and BP consistently above 170/100 mmHg – the Risk Charts may underestimate risk.</p>	
<p>Note that as well as higher CVD risk, people with diabetes face additional risks. Consult <i>New Zealand Primary Care Handbook 2012</i>, Chapter 4: Management of type 2 diabetes, for information on assessing and managing these risks.</p>	
*	<p>Indo-Asian peoples: Indian, including Fijian Indian, Sri Lankan, Afghani, Bangladeshi, Nepalese, Pakistani, Tibetan.</p>
†	<p>Microalbuminuria is defined as excretion of between 30 mg and 300 mg of albumin a day in the urine. Less than 30 mg is insignificant. Over 300 mg is albuminuria or macroalbuminuria.</p>

Cardiovascular risk factor management goals

- All treatment decisions should be informed by an individual's estimated five-year combined³ CVD risk and a discussion of the magnitude of benefits and the type and likelihood of potential harms of interventions. Although it is recognised people will have their own risk thresholds, Table 5 presents a general guide to interventions, goals and follow-up based on cardiovascular risk assessment.

The aim of treatment is to reduce CVD risk.

- The order in which to start interventions should take into account individual risk factor levels (note: it is easier to modify a risk factor that is very abnormal than one that is moderately abnormal), potential side effects, other concurrent illness, compliance and personal preference. It is often appropriate to treat multiple risk factors simultaneously.
- Blood pressure lowering and statin medications work independently to lower risk; therefore, either or both will be effective depending on the combined clinical risk.

Your Heart Forecast can be used to help patients easily understand their individual risk of cardiovascular disease. Search for 'your heart forecast' at www.heartfoundation.org.nz

³ The word 'combined' is used to reflect the calculated risk based on the combined effects of known cardiovascular risk factors.

Lifestyle interventions

Graded lifestyle advice is appropriate for everyone and needs to consider the individual's circumstances.

Specific lifestyle interventions are based on a behavioural counselling approach. They aim to help people acquire the skills and motivation to alter eating patterns or physical activity habits. Techniques used include: self-monitoring, training to overcome common barriers, goal setting, providing guidance in shopping and food preparation, role playing, and arranging support or referral. Health professionals should use appropriate communication skills, tools and resources to build health literacy.

Diet

The Heart Foundation's nine steps to eating for a healthy heart

1. Enjoy three meals a day, selecting from dishes that encourage you to eat plant foods and fish, and with little or no dairy fat, meat fat or deep-fried foods.
2. Choose fruits and/or vegetables at every meal and for most snacks.
3. Select whole grains, whole-grain breads or high-fibre breakfast cereals, in place of white bread and low-fibre varieties at most meals and snacks.
4. Include fish or dried peas, beans and soy products, or a small serving of lean meat or skinned poultry, at one or two meals each day.
5. Choose low-fat milk, low-fat milk products, soy or legume products every day.
6. Use nuts, seeds, avocado, oils or margarine instead of animal and coconut fats.
7. Drink plenty of fluids each day, particularly water, and limit sugar-sweetened drinks and alcohol.

8. Use only small amounts of sugar or salt (if any) when cooking and preparing meals, snacks or drinks. Choose ready-prepared foods low in saturated fat, sugar and sodium.
9. Mostly avoid or rarely include butter, deep-fried and fatty foods; and only occasionally choose sweet bakery products or pastries (www.heartfoundation.org.nz).

See *New Zealand Primary Care Handbook 2012*, Appendix E, pp 102–105.

Physical activity

The aim is for a minimum of 30 minutes of moderate-intensity physical activity on most days of the week.

Individuals with a history of CVD should consult their doctor before they undertake vigorous physical activity.

Vigorous activity is generally not encouraged in people with impaired left ventricular function, severe coronary artery disease, recent MI, significant ventricular arrhythmias or stenotic valve disease.

Physical activity for people with coronary heart disease should begin at a low intensity and gradually increase over several weeks.

For further resources from the Ministry of Health, search for 'physical activity' at www.health.govt.nz

From the physical activity page, click on 'Green Prescriptions' for further information on using this intervention.

Weight

The *Clinical Guidelines for Weight Management in New Zealand Adults* (Ministry of Health 2009) recommend a stepped approach to assisting people to achieve and maintain a healthy weight. For all people with a BMI ≥ 25 , the guidelines recommend a combination of changes in food/nutrition, physical activity and behavioural strategies to support these changes.

Smoking cessation⁴

ABC

- **Ask** about smoking status.
- Give **Brief advice** to stop smoking **and** make an offer of help to quit* to **all** smokers regardless of their perceived readiness to quit.
- For those who accept the offer, refer them to or provide them with evidence-based **Cessation support**.
- **Document** your intervention.

* Offering help with quitting smoking generates more quit attempts than just giving advice to quit on medical grounds (eg, offering a smoking cessation medicine or behavioural support can increase the frequency of quit attempts by 39 percent and 69 percent respectively).

Table 4: Effective smoking interventions

Intervention versus comparison
• Brief advice from a health professional vs no intervention
• Proactive telephone support vs reactive telephone support
• Automated text messaging vs messaging not related to smoking
• Face-to-face, individual behavioural support vs brief advice or written materials
• Face-to-face, group-based behavioural support vs brief advice or written materials

Adapted from: West R, Raw M, Dowling S, et al. 2013. Interventions to promote tobacco cessation: a review of effectiveness and affordability for use in national guideline development. Unpublished.

⁴ Aveyard P, Begh R, Parsons A, West R. 2011. Brief opportunistic smoking cessation interventions: a systematic review and meta-analysis to compare advice to quit and offer of assistance. *Addiction* 107(6): 1066–73.

Medication management

Lipid lowering

In those with TC ≥ 8 mmol/L or a TC:HDL-C ratio ≥ 8 , lipid-lowering treatment is usually recommended irrespective of the combined CVD risk.

Lipid lowering for people with combined CVD risk between 10 percent and 20 percent

- For patients with combined CVD risk between about 10 percent and 20 percent, discuss the benefits (and risks) of initiating statins.
- Following lifestyle management, repeat lipid profile (non-fasting) to recalculate risk and use the results to inform shared treatment decision-making in 6–12 months.
- The aim is to achieve a moderate reduction in LDL-C; no target is required for those with a combined risk ratio under 20 percent.
- Remeasurement can wait until the next formal combined risk assessment.

Before a person starts on medication, it is important to consider and exclude a treatable primary cause for a dyslipidaemia. Such causes include a high saturated fat diet and excessive alcohol consumption, hypothyroidism, diabetes, liver disease, nephrotic syndrome and steroid treatment.

Lipid lowering for people with combined CVD risk over 20 percent or established cardiovascular disease

For people with known cardiovascular disease and those with a combined cardiovascular risk >20 percent, statin treatment is strongly recommended.

Recommended starting doses for statin treatment

- For people with known CVD or combined CVD risk >20 percent, start with 20–40 mg of atorvastatin.
- For people with a five-year combined CVD risk between 10 percent and 20 percent, if the shared decision is to initiate a statin, start with a moderate LDL-lowering dose, eg, simvastatin 40 mg or atorvastatin 20 mg.

There is no evidence that outcomes are improved by adding other cholesterol-lowering drugs to a statin.

Monitoring

Monitor non-fasting lipids every three to six months until the person is stable on their treatment regime and then no more than once a year. Measuring more frequently may mislead as the variation in day-to-day measurement may be greater than drift over time.⁵

The aim is to achieve a moderate reduction in LDL-C; no target is required for those with a combined risk ratio under 20 percent.

Remeasurement can wait until the next formal combined risk assessment.

Statin safety monitoring

Statins are generally safe medications. Prescribing needs to be decided in the context of harms and benefits for combined risk.

It is important to consider how the medicines interact with statins. Review with a pharmacist may be useful depending on circumstances, including if it is unclear what medications a patient is currently taking.

⁵ Glasziou P, et al. 2013. When to remeasure cardiovascular risk in untreated people at low and intermediate risk: Observational study *British Medical Journal* 346: f1895. DOI: <http://dx.doi.org.ezproxy.auckland.ac.nz/10.1136/bmj.f1895>

Do not exceed the recommended dose limits of simvastatin for patients taking the following medications.

Interacting medication	Maximum simvastatin dose*
<ul style="list-style-type: none">• Amiodarone• Verapamil• Diltiazem• Nicotinic acid $\geq 1\text{g/day}$	20 mg/day
<ul style="list-style-type: none">• Amlodipine	40 mg/day

* Source: Medsafe (2012).

Additionally, consider a simvastatin dose reduction for patients taking fibrates, systemic fusidic acid, colchicine or with renal impairment.

Monitoring liver function tests with statin use is not considered necessary as the risk of liver toxicity appears negligible.

Monitoring creatine kinase (CK) is not required in those who are asymptomatic. Check CK for unexplained muscle pain, tenderness or weakness. The risk of myopathy is usually dose-related and is increased in the elderly and with combination treatments.

- For muscle pain without CK rise, dose reduction or discontinuation may be required.
- With CK rise 3–10x normal with symptoms, dose reduction or discontinuation with regular weekly monitoring of symptoms and CK is appropriate.
- With CK rise $>10\text{x}$ normal with symptoms, discontinue statin immediately.

Specific lipid profiles and treatments

Seek specialist input for specific lipid disorders.

Blood pressure lowering

Before initiating treatment, establish a baseline BP, based on multiple measurements.

In those with BP \geq 170/100 mm Hg, BP-lowering treatment is usually recommended irrespective of the combined CVD risk.

Below 170/100 mm Hg, shared decisions to treat should be informed by the individual's combined cardiovascular risk.

Blood pressure lowering for people with combined CVD risk between 10 percent and 20 percent

- For patients with combined CVD risk between about 10 percent and 20 percent, discuss the benefits (and risks) of initiating blood pressure lowering drugs.
- Following lifestyle management, repeat blood pressure measurements to recalculate risk and use the results to inform shared treatment decision-making.
- The aim is to achieve a moderate reduction in blood pressure; to reduce combined risk; no target is required for those with a combined risk ratio under 20 percent.

Blood pressure lowering for people with combined CVD risk over 20 percent or established cardiovascular disease

For people with known cardiovascular disease and those with a combined cardiovascular risk $>$ 20 percent, blood pressure lowering treatment is strongly recommended. If blood pressure is below 130/80, blood pressure lowering treatment should be initiated cautiously.

Recommended choice of blood pressure lowering medications

These are unchanged from 2012 guidance.

Monitoring

Monitor blood pressure every three to six months until the person is stable on their treatment regime and then it is unnecessary more than

once a year. Measuring more frequently may mislead as the variation in day-to-day measurement may be greater than drift over time.⁶

In the following circumstances, refer to current guidelines:

- after myocardial infarction
- after stroke or transient ischaemic attack
- people with diabetes.

Long-term aspirin / antiplatelet therapy

Note: Antiplatelet agents should not be added if the patient is already on anticoagulants.

Aspirin and other antiplatelet agents are not generally recommended for people with a risk lower than 20 percent.

Antiplatelet therapy for people with combined CVD risk over 20 percent but without established cardiovascular disease

Aspirin can be considered for these high-risk primary prevention people, taking into account harms and benefits.

Antiplatelet therapy for people with established cardiovascular disease

Antiplatelet therapy is strongly recommended for people with established cardiovascular disease.

Aspirin contraindications

Aspirin allergies / intolerance, active peptic ulceration, uncontrolled BP and other major bleeding risks.

⁶ Glasziou P, et al. 2013. When to remeasure cardiovascular risk in untreated people at low and intermediate risk: Observational study *British Medical Journal* 346:f1895. DOI: <http://dx.doi.org.ezproxy.auckland.ac.nz/10.1136/bmj.f1895>

Table 5: The recommended interventions, goals and follow-up based on cardiovascular risk assessment

Cardiovascular risk	Lifestyle	Drug therapy	Follow-up
Established CVD	Intensive lifestyle advice (diet, physical activity, smoking cessation) simultaneously with drug treatment	Strong evidence of benefit from BP-lowering, statins and antiplatelet therapy in this group	Risk factor monitoring initially at 3 months, then as clinically indicated
CVD risk calculated >20%	Intensive lifestyle advice (diet, physical activity, smoking cessation) simultaneously with drug treatment	Strong evidence of benefit from BP-lowering, statins and antiplatelet therapy in this group	Annual review or as clinically indicated
10% to 20%	Specific individualised lifestyle advice (diet, physical activity, smoking cessation)	Good evidence demonstrating benefit from BP-lowering and/or statin therapy in this group. The absolute benefits will be smaller at lower levels of combined risk, with increasing benefit of treating both BP and lipids for those with higher five-year combined risk Shared decision-making approach to consider benefits and harms of drug treatment of modifiable risk factors	As clinically indicated, with a more intensive focus for higher combined risk patients If patient not on drug treatment, offer CVD risk assessment at reassessment – at one year for 15% to 20% risk and every two years for 10% to 15% risk
<10%	Lifestyle advice (diet, physical activity, smoking cessation)	Evidence of benefit from BP-lowering and statin therapy in this group is unclear; use a shared decision-making approach to consider benefits and harms of treatment of modifiable risk factors	Offer further CVD risk assessment in 5 to 10 years