

Understanding and Preventing Stroke and Transient Ischaemic Attack



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Learn to recognise
the symptoms and
save a life

Four common myths about Stroke

MYTH 1

Strokes and heart attacks are the same

TRUTH - A stroke is a sudden interruption of blood flow to part of the brain, causing it to stop working and eventually damage brain cells. Basically, it is a brain attack. Although stroke and heart attacks both involve the blood vessels, share some risk factors and can be caused by blood clots, the consequences are totally different. When they happen, their only similarity is the need for emergency treatment.

MYTH 2

Stroke can't be prevented, there's nothing you can do about it

TRUTH - Stroke is largely preventable. Early detection and effective control of stroke risk factors can greatly reduce the possibility of stroke. The number of people suffering stroke would be more than halved if all recommended risk reduction strategies were taken in the community.

MYTH 3

Stroke hits without warning

TRUTH - Mini-strokes (Transient Ischaemic Attacks or TIA) can happen prior to a stroke. These signs of stroke disappear within (minutes to hours), but should be seen as a clear warning that a more severe stroke might follow. Early medical attention and treatment can prevent this.

MYTH 4

Stroke only affects older people

TRUTH - Stroke affects all ages. In New Zealand each year, 40 stroke victims will be children and nearly 2,000 (a quarter of all strokes) will be under retirement age.

10 key facts about Stroke in NZ

1. Stroke is the second single largest killer in New Zealand (more than 2000 people every year).
2. Every day, 22 New Zealanders have a stroke.
3. Stroke is the major cause of adult disability in New Zealand.
4. Stroke is largely preventable, yet 8000 New Zealanders a year suffer a stroke – a third of which are fatal.
5. There are 56,000 stroke survivors in New Zealand, many of whom have disability and need significant daily support.
6. Stroke recovery can continue throughout life, but there is little ongoing rehabilitation provided for stroke survivors nationally.
7. At least one in three New Zealanders can't recognise the signs of a stroke. Delayed recognition means delayed medical intervention. Delayed medical intervention can have tragic consequences.
8. High blood pressure is a major cause of strokes. One in five New Zealanders have high blood pressure, and a third of these don't know it. Reducing your blood pressure can greatly reduce stroke risk.
9. Stroke is a medical emergency – yet most New Zealanders do not have access to acceptable stroke hospital services.
10. The Stroke Foundation is New Zealand's only organisation solely dedicated to reducing the risks of stroke, and improving outcomes for the stroke-affected.

Urgent medical
attention will reduce
stroke damage

Recognising Stroke

LEARN TO RECOGNISE THE SYMPTOMS AND SAVE A LIFE

Stroke is a medical emergency. Call 111 immediately if you find yourself – or see anyone else – suffering from any of the symptoms below. Not all strokes are sudden and incapacitating. The sooner medical attention is received, the less damage a stroke will cause.

Is it a Stroke? Act FAST. Call 111.

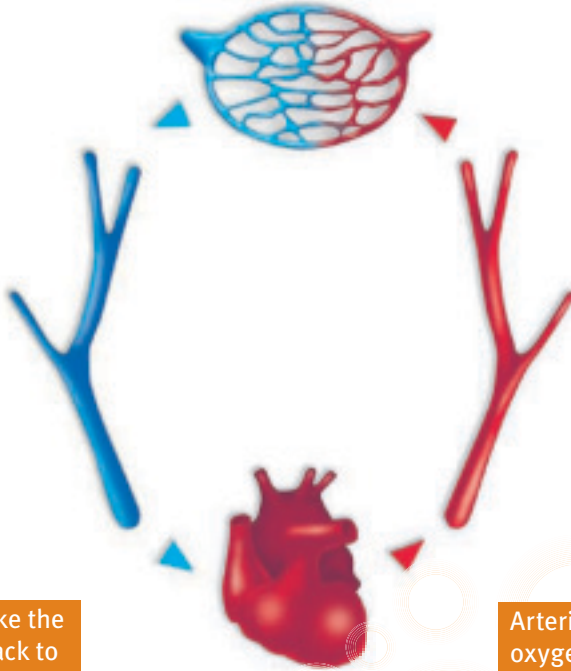


Stroke is a medical emergency.

Understanding Stroke

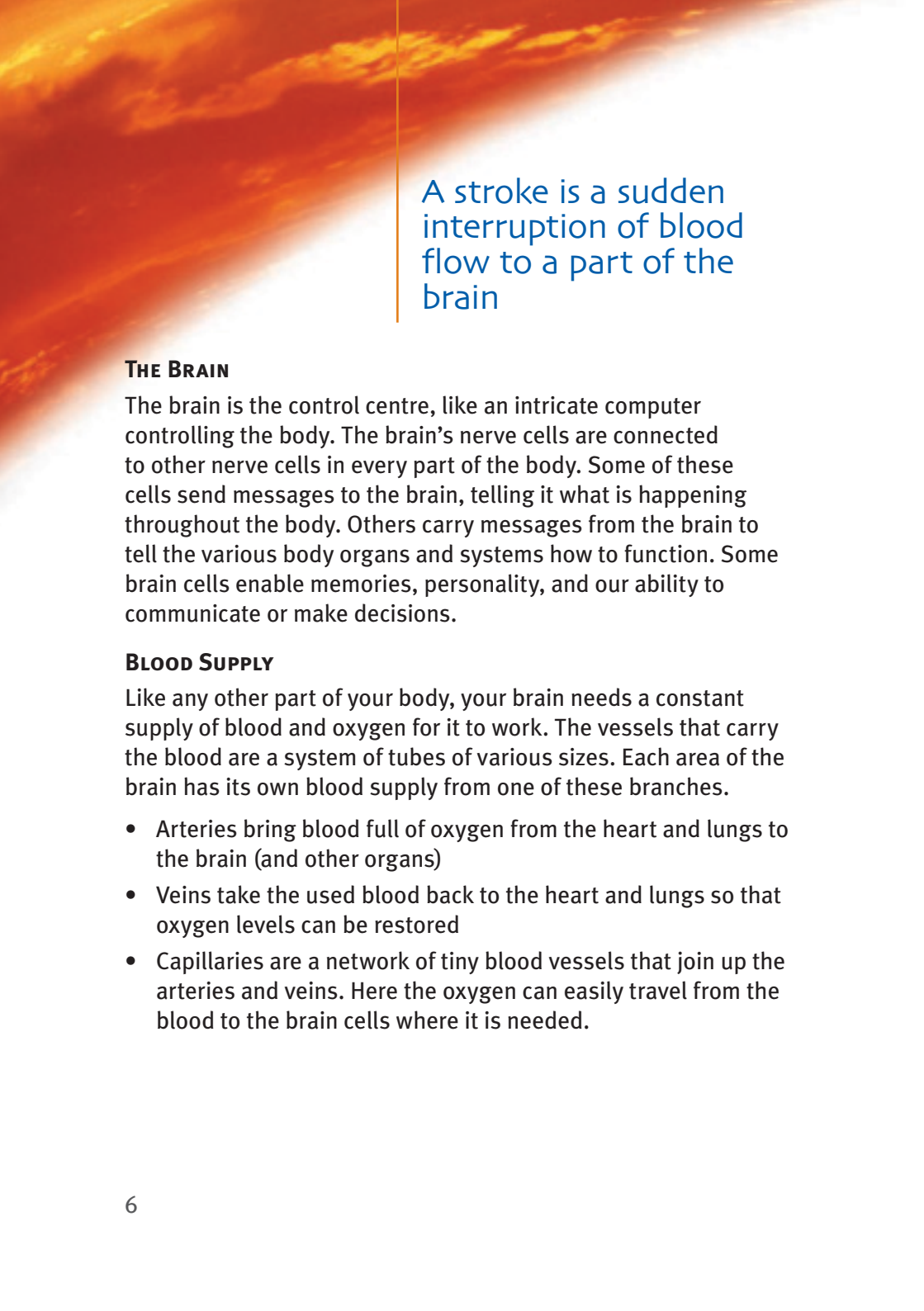
A stroke is a brain attack – a sudden interruption of blood flow to a part of the brain, causing it to stop working and eventually damage brain cells. The effects can be devastating and may last a lifetime.

A network of tiny capillaries joins up the arteries and veins



Veins take the blood back to the heart to be re-oxygenated

Arteries carry oxygenated blood from the heart to the brain and other organs



A stroke is a sudden interruption of blood flow to a part of the brain

THE BRAIN

The brain is the control centre, like an intricate computer controlling the body. The brain's nerve cells are connected to other nerve cells in every part of the body. Some of these cells send messages to the brain, telling it what is happening throughout the body. Others carry messages from the brain to tell the various body organs and systems how to function. Some brain cells enable memories, personality, and our ability to communicate or make decisions.

BLOOD SUPPLY

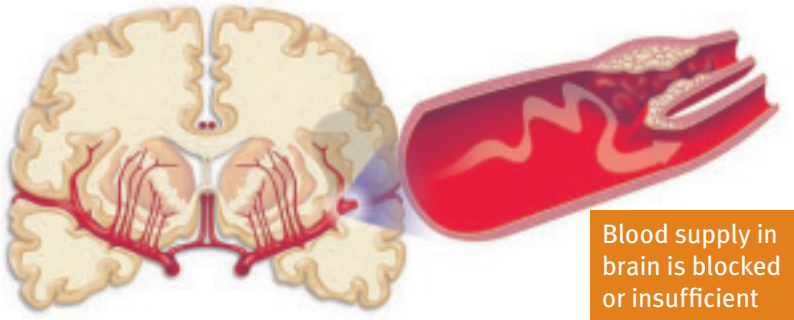
Like any other part of your body, your brain needs a constant supply of blood and oxygen for it to work. The vessels that carry the blood are a system of tubes of various sizes. Each area of the brain has its own blood supply from one of these branches.

- Arteries bring blood full of oxygen from the heart and lungs to the brain (and other organs)
- Veins take the used blood back to the heart and lungs so that oxygen levels can be restored
- Capillaries are a network of tiny blood vessels that join up the arteries and veins. Here the oxygen can easily travel from the blood to the brain cells where it is needed.

How a Stroke happens

There are two main ways a stroke happens: either a clot blocks a blood vessel in the brain, or a blood vessel in the brain bursts.

1. Ischaemic Stroke – a blocked blood vessel in the brain.



This is the most common type of stroke. When the blood supply is blocked or insufficient, the section of the brain supplied by that artery does not receive the oxygen it needs to function and brain cells are damaged. The blockage to the artery happens because:

- Disease (atherosclerosis or ‘hardening of the arteries’) causes a build up of fatty tissue (plaque) in the wall of the artery. If the lining of these fatty deposits breaks, a clot can form and this narrows the space that blood can flow through or blocks the flow altogether.

OR

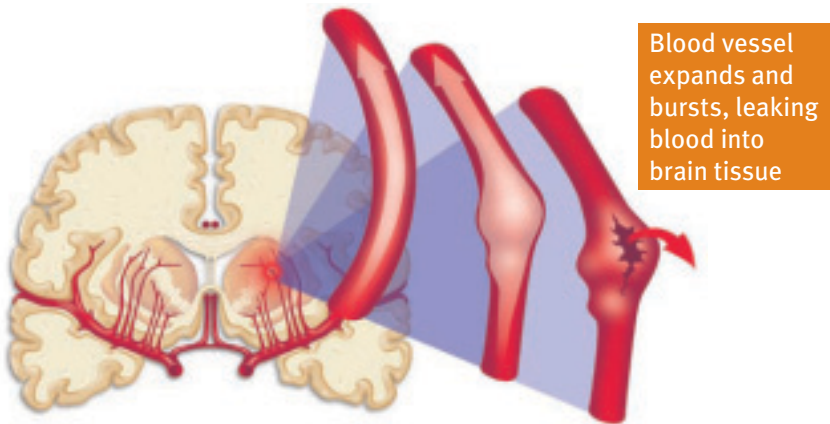
- An embolus, which is a blood clot or a clump of debris, breaks off and travels in the bloodstream until it becomes stuck in a small or narrowed artery in the brain. The embolus can come from one of the large blood vessels between the heart and the brain or from the heart itself. For example, this can happen after a heart attack, or as a result of heart valve disease or an abnormal heart rhythm (especially atrial fibrillation [AF]).

Ischaemic stroke is the most common type

2. Haemorrhage – a burst blood vessel causes bleeding in the brain

There are two main types of brain haemorrhage – intra-cerebral haemorrhage and subarachnoid haemorrhage.

INTRA-CEREBRAL HAEMORRHAGE



This is when blood bursts through the walls of an artery and leaks into the brain. This can happen because the person was born with a faulty artery or an abnormal collection of blood vessels, or because disease (usually caused by high blood pressure) has weakened the artery walls. The leaking blood is forced into brain tissue causing damage. Because there is little space inside the skull cavity, the build up of blood also presses on nearby parts of the brain causing further damage to nerve cells and brain function. Only 10 – 15 per cent of strokes are due to haemorrhage.

ANEURYSMS AND SUB-ARACHNOID HAEMORRHAGE

An aneurysm is when a weakness in an artery wall balloons out and forms a thin walled bubble on the artery. If the bubble (aneurysm) bursts, the blood leaks into the fluid surrounding the brain, usually resulting in a sudden severe headache. Sometimes the increased pressure inside the skull makes people drowsy or even unconscious. Aneurysms may develop over several years and usually don't cause detectable problems until they burst.

Mini Strokes (TIA's)

Some strokes are very sudden, but often there are warning signs. Usually these warnings are in the form of a mini stroke or *Transient Ischaemic Attack (TIA)*.

TRANSIENT

Stroke symptoms disappear within 24 hours (often less than an hour).

ISCHAEMIC

Blockage of blood flow to part of the brain.

ATTACK

Sudden onset of symptoms.

Transient Ischaemic Attack symptoms are very similar to those of a stroke (see '*Recognising Stroke*' on p4), and the causes are the same as for ischaemic stroke (see p7). By definition, the symptoms are temporary, lasting less than 24 hours. Symptoms lasting more than 24 hours are called a 'stroke'.

Most TIAs fully recover within a few minutes or an hour.

If symptoms persist beyond this it is better to act as if it is a stroke and seek help immediately – Act FAST and dial 111.



A TIA has stroke symptoms lasting 24 hours at most

Common symptoms may include:

- Sudden weakness and/or numbness of face, arm and/or leg especially on one side of the body
- Sudden blurred or loss of vision in one or both eyes
- Sudden difficulty speaking or understanding what others are saying
- Sudden dizziness, loss of balance or difficulty controlling movements.

WHAT TO DO IF YOU SUSPECT YOU HAVE HAD A TIA

Seek medical attention immediately. Never ignore the symptoms of a TIA even if you fully recover. It might be a warning of a future more severe stroke, which could be prevented with treatment. The average risk of having a stroke in the first year after a TIA is about 10 per cent. But some people are at much greater risk of having a stroke within the next few days or weeks, even as much as 10 per cent in the first week. The sooner a doctor is able to confirm whether it is a TIA, the sooner you can start on treatment to prevent a stroke.

Ideally, the person with a suspected TIA should go directly to hospital for an assessment by a stroke specialist within hours or days of the suspected TIA.

YOUR DOCTOR WILL NEED TO

1. Confirm your problem is likely to be caused by a TIA or minor stroke rather than another health issue.

2. Identify your risk of having another TIA or stroke, and treatable factors that could increase this risk.
3. Organise the best treatment to reduce chances of suffering from a stroke in the future and start this as soon as possible.
 - Various tests may be arranged, similar to those listed on page 14
 - If there is a delay in access to appropriate specialist services it is important that treatment to prevent a stroke is started as soon as possible by a GP, even before other tests can be arranged.

Stroke is always a Medical Emergency

Stroke is always a medical emergency. Even if the symptoms don't cause pain or go away quickly, call 111 immediately.

Emergency intervention improves chances of survival and successful rehabilitation.

Emergency medical treatment is crucial for three reasons:

- You need to be assessed by a doctor who will look at treatments to prevent another stroke, as well as treatment for any existing stroke
- Some treatments for stroke must be given within three hours of the stroke starting. The longer a stroke remains untreated, the greater chance there is of stroke-related brain damage
- Only a doctor can decide whether you are having a stroke or have had one. A number of conditions can look like a stroke and need to be ruled out urgently.



Stroke is always a
medical emergency

Hospital Stroke Assessment and Management

All people with a suspected stroke should expect to be admitted to hospital for assessment and treatment.

HOSPITAL TREATMENT

WHAT TO EXPECT

The person with a suspected stroke is usually admitted to an acute medical ward or specialised stroke unit for initial testing and treatment. Later they may be transferred to a rehabilitation ward or a separate stroke rehabilitation unit. If the hospital is smaller, they may stay in the same ward for rehabilitation or be transferred to a specialised unit in another town. The doctors, nurses, therapists or social worker in the acute ward where the person is first admitted, will give information about where the rehabilitation is to be carried out.

Some people with quite mild strokes may have initial tests at the hospital and then can go home. The hospital team organises ongoing therapy, which the person will have either as an outpatient or in their home.

When released from hospital, the emphasis at home will be on encouraging the stroke survivor to do activities without the physical assistance of a therapist. This is called a self-directed, home-based rehabilitation programme. The rehabilitation therapist will instruct the survivor and caregiver/s, and will

be in touch regularly to check progress, upgrading exercises when necessary.

LENGTH OF HOSPITAL STAY

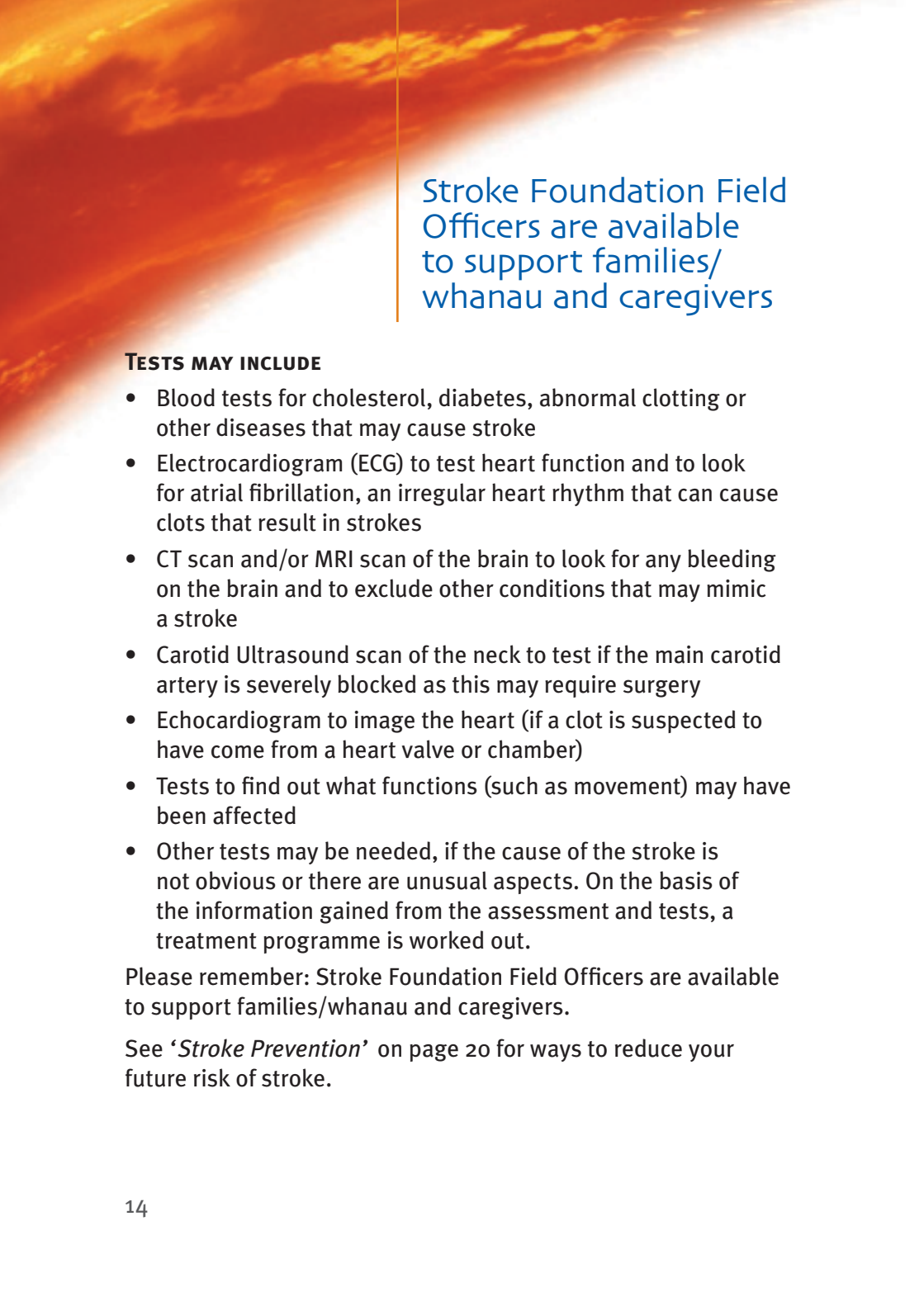
How long the person stays in hospital depends on many factors including the speed of recovery from the stroke, how independent the person was before their stroke, how much support they have at home, how appropriate their house is for someone with a disability and how bad the stroke is. Some strokes involve an initial period of altered or lost consciousness, and the depth and length of unconsciousness can indicate stroke severity.

In a small number of cases, people with a stroke are unable to return home and will need long-term care in a private hospital or rest home. This is more likely in those who show little sign of any recovery within the first week, are older or already have disability from previous strokes or other illnesses.

ASSESSMENTS AND TESTS

When in hospital, the doctor will make a clinical diagnosis by getting the patient's medical history followed by a physical examination. A number of tests may be used to help make the diagnosis and to treat the patient effectively. The purpose of assessment and testing is to find out:

- Whether the person has a stroke and not some other disorder
- What caused the stroke and which part of the brain is affected
- Whether the person has an underlying disorder that contributed to the stroke
- What risk factors are present.



Stroke Foundation Field Officers are available to support families/whanau and caregivers

TESTS MAY INCLUDE

- Blood tests for cholesterol, diabetes, abnormal clotting or other diseases that may cause stroke
- Electrocardiogram (ECG) to test heart function and to look for atrial fibrillation, an irregular heart rhythm that can cause clots that result in strokes
- CT scan and/or MRI scan of the brain to look for any bleeding on the brain and to exclude other conditions that may mimic a stroke
- Carotid Ultrasound scan of the neck to test if the main carotid artery is severely blocked as this may require surgery
- Echocardiogram to image the heart (if a clot is suspected to have come from a heart valve or chamber)
- Tests to find out what functions (such as movement) may have been affected
- Other tests may be needed, if the cause of the stroke is not obvious or there are unusual aspects. On the basis of the information gained from the assessment and tests, a treatment programme is worked out.

Please remember: Stroke Foundation Field Officers are available to support families/whanau and caregivers.

See '*Stroke Prevention*' on page 20 for ways to reduce your future risk of stroke.

Effects of Stroke

The human brain is divided into regions. Each region controls different movements, senses, or intellectual functions. Therefore, the effects of a stroke depend on which region of the brain is damaged. Different types of stroke can also cause similar damage. For instance, fatigue will always be a significant effect of any stroke.

EFFECTS OF LEFT HEMISPHERE STROKES


Because the left side of the brain controls motor and sensory functions of the right side of the body, a stroke on the left side of the brain affects the right side of the body.

The following effects may happen, depending on which area of the left side of the brain has been damaged (the common medical terms used are also provided):

- Paralysis or loss of strength in right side of body (hemiparesis)
- Loss of feeling in right side of body (hemianaesthesia)
- Loss of field of vision to the right affecting both eyes (hemianopia)
- Difficulty speaking eg can't name objects or express thoughts (dysphasia)
- Not understanding what others are saying (dysphasia).

Other effects of left hemispheric strokes may include

- Inability to read and/or write
- Slurred monotonous speech (dysarthria)
- Difficulty swallowing or eating (dysphagia)
- Loss of awareness to the right and even ignoring the right side



Effects of a stroke depend on which region of the brain is damaged

- Thoughts tend to be disconnected
- Memory loss for spoken things
- Difficulty with performing purposeful movement (eg combing the hair)
- Confusion between left and right
- Easily frustrated
- Slowness, clumsiness
- Overwhelming urges to perform or repeat some actions
- Difficulty structuring and planning behaviour
- Poor motivation
- Difficulty dealing with numbers (arithmetic).

EFFECTS OF RIGHT HEMISPHERE STROKES

The right side of the brain controls motor and sensory functions for the left side of the body. The following may happen depending on which area of the right side of the brain has been damaged (the common medical terms used are also provided):

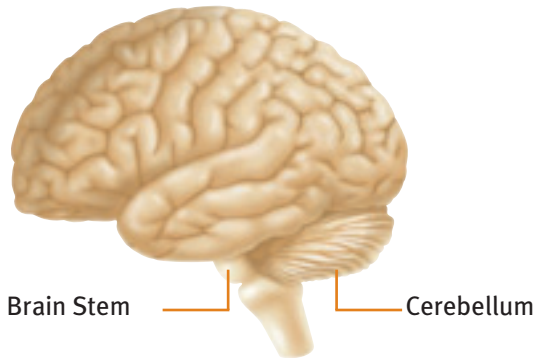
- Paralysis or loss of strength in left side of body (hemiparesis)
- Loss of feeling in left side of body (hemianaesthesia)
- Loss of awareness to the left and even ignoring the left side
- Loss of field of vision to the left, affecting both eyes (hemianopia).

Other effects of right hemispheric strokes may include:

- Excessive talking
- Slurred monotonous speech (dysarthria)
- Difficulty swallowing or eating (dysphagia)
- Difficulty recognising familiar faces
- Difficulty seeing how things relate to each other in space
- Difficulty interpreting sounds
- Loss of insight and denying existence of problems
- Depression
- Tendency to sarcasm, or uncharacteristic and at times embarrassing behaviour or comments
- Short attention span
- Memory problems
- Poor judgement of physical abilities (especially safety awareness)
- Muddled sense of time
- Difficulty with abstract thinking (eg comparing ideas, solving problems)
- Mood swings
- Lack of interest, difficulty in 'getting going'
- Acting without thinking
- Difficulty in recognising someone else's mood.

Brainstem strokes can be serious because the brainstem connects to the spinal cord

Effects of Brainstem and Cerebellar Strokes



BRAINSTEM STROKES

Brainstem strokes tend to be quite serious. The brainstem is the part of the brain that connects with the top of the spinal cord. It acts as the conduit for all of the nerves that connect the brain above with the spinal cord below, and also the cerebellum (see below). It also contains special nerve cells that keep us awake, control breathing, heart rate and blood pressure, facial and eye movement and sensation, hearing, smell, taste, swallowing, tongue movement, and the muscles of the neck.

POSSIBLE EFFECTS OF BRAINSTEM STROKE INCLUDE

- Coma, pronounced drowsiness or disturbed alertness
- Breathing problems

- Spontaneous changes in heart rate and blood pressure
- Nausea and vomiting
- Loss of movement and/or sensation in one or both sides of the body
- Double vision, because one eye cannot move in unison with the other
- Loss of sensation in one eye, or one side of the face, or tongue
- An enlarged or dilated pupil
- Slurred speech
- Loss of movement on one side of the face
- Problems with swallowing
- Incoordination or abnormal jerky movements when trying to do something.

CEREBELLAR STROKES

The cerebellum is situated under the cerebral hemisphere, and behind the brainstem. Its major function is to control and co-ordinate movement and balance. When a stroke happens in the cerebellum, the following may occur:

- Loss of balance (ataxia). The person may 'seem drunk'. They walk with the feet more widely apart, and weave or wobble. Alcohol will make this worse because it also interferes with cerebellar function
- Slurred and monotonous speech (dysarthria)
- Clumsiness and/or shaking limb (inco-ordination) when the person tries to do something (eg drink a cup of tea or pick up an object). If the stroke is only affecting one side of the cerebellum, the abnormality will be on the same side as the stroke
- Abnormal eye movement, the eyes have a quick/slow flicker as they move (nystagmus)



Cause and prevention
are often closely linked

- Abnormal movement patterns of the head and upper body
- Because the brain's nerve connections with the cerebellum can be damaged in other types of stroke, some of the abnormalities seen in cerebellar strokes may also occur in brainstem or even cerebral strokes.

Stroke Prevention

CONTROL STROKE RISK FACTORS

- Check blood pressure
- Stop smoking
- Exercise regularly
- Limit alcohol intake
- Eat healthy balanced diet and reduce salt intake
- Lower cholesterol
- Check for Atrial Fibrillation
- Control weight
- Check if you need medicines prescribed
- You may need an operation.

CAUSE AND PREVENTION ARE OFTEN CLOSELY LINKED. YOU CAN REDUCE YOUR STROKE RISK BY CONTROLLING THE STROKE RISK FACTORS.

Despite common misconceptions, sudden shocks or arguments almost never cause strokes. Usually strokes happen as a consequence of a combination of factors that have been present or developing for a long period of time (see over page). If someone has two or more of the risk factors below, stroke risk can dramatically increase (do the ‘Risk Factors’ test with our ‘*Self Assessment Scorecard*’ on p26). Anyone who is high risk should see their doctor, who will usually assess each risk factor for stroke (and heart disease) before deciding on necessary treatments.

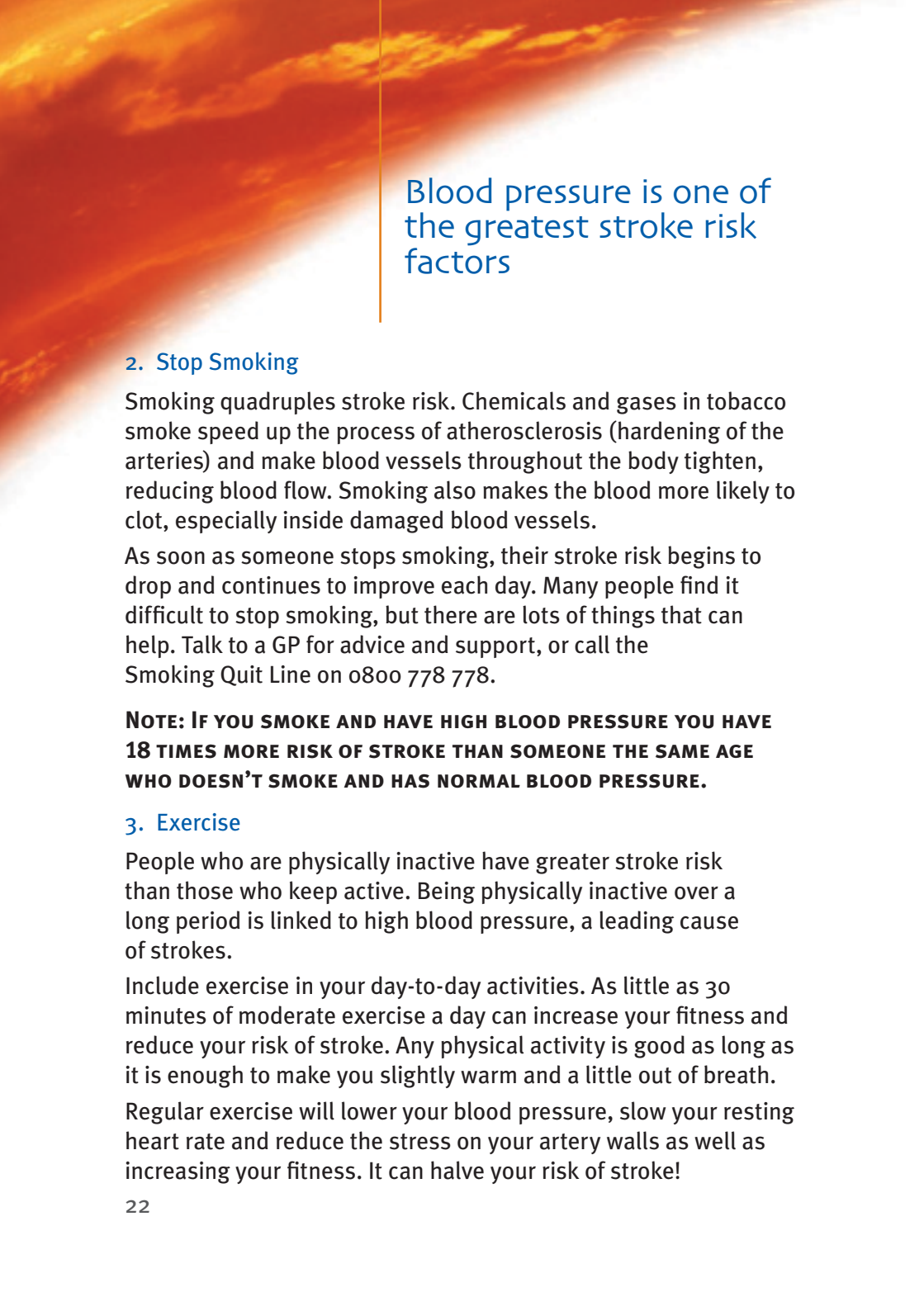
HERE ARE SOME SIMPLE RULES TO REDUCE STROKE RISK:

1. Get your blood pressure checked

Because it is one of the greatest stroke risk factors, failure to detect and control high blood pressure is the number one cause of avoidable strokes. A person with high blood pressure is up to seven times more likely to have a stroke than someone with normal or low blood pressure.

High blood pressure puts too much pressure and stress on the walls of blood vessels and increases the risk of both haemorrhages and blood clots. High blood pressure is usually silent and rarely gives any warning signs – the only way to know is to have it checked. It is important to have it checked twice a year, especially for men aged over 45 years and women over 55 years – earlier if there is a family history of stroke or heart attack, or any other risk factors for stroke or heart attack.

A doctor will recommend strategies to lower your blood pressure and your risk of stroke including lifestyle changes such as losing weight, changing unhealthy eating habits, reducing your salt intake, exercising more and stopping smoking. In many cases, a doctor may also prescribe medication to lower blood pressure (see ‘*Medicines*’ on p24).



Blood pressure is one of the greatest stroke risk factors

2. Stop Smoking

Smoking quadruples stroke risk. Chemicals and gases in tobacco smoke speed up the process of atherosclerosis (hardening of the arteries) and make blood vessels throughout the body tighten, reducing blood flow. Smoking also makes the blood more likely to clot, especially inside damaged blood vessels.

As soon as someone stops smoking, their stroke risk begins to drop and continues to improve each day. Many people find it difficult to stop smoking, but there are lots of things that can help. Talk to a GP for advice and support, or call the Smoking Quit Line on 0800 778 778.

NOTE: IF YOU SMOKE AND HAVE HIGH BLOOD PRESSURE YOU HAVE 18 TIMES MORE RISK OF STROKE THAN SOMEONE THE SAME AGE WHO DOESN'T SMOKE AND HAS NORMAL BLOOD PRESSURE.

3. Exercise

People who are physically inactive have greater stroke risk than those who keep active. Being physically inactive over a long period is linked to high blood pressure, a leading cause of strokes.

Include exercise in your day-to-day activities. As little as 30 minutes of moderate exercise a day can increase your fitness and reduce your risk of stroke. Any physical activity is good as long as it is enough to make you slightly warm and a little out of breath.

Regular exercise will lower your blood pressure, slow your resting heart rate and reduce the stress on your artery walls as well as increasing your fitness. It can halve your risk of stroke!

4. Limit the Amount of Alcohol You Drink

Studies now show that drinking up to two small drinks a day can reduce stroke risk – but drinking any more than that increases stroke risk by as much as three times. A drinking binge creates as much as five times greater risk. Regular heavy drinking increases stroke risk, because it can raise blood pressure and increase the risk of haemorrhage in the brain.

5. Eat a Healthy Diet

Cutting down on fat and salt should lower a person's blood pressure and cholesterol levels. Too much fat in a diet can cause silting of the arteries (atherosclerosis), which can cause strokes. Too much salt can raise blood pressure and this also can cause strokes.

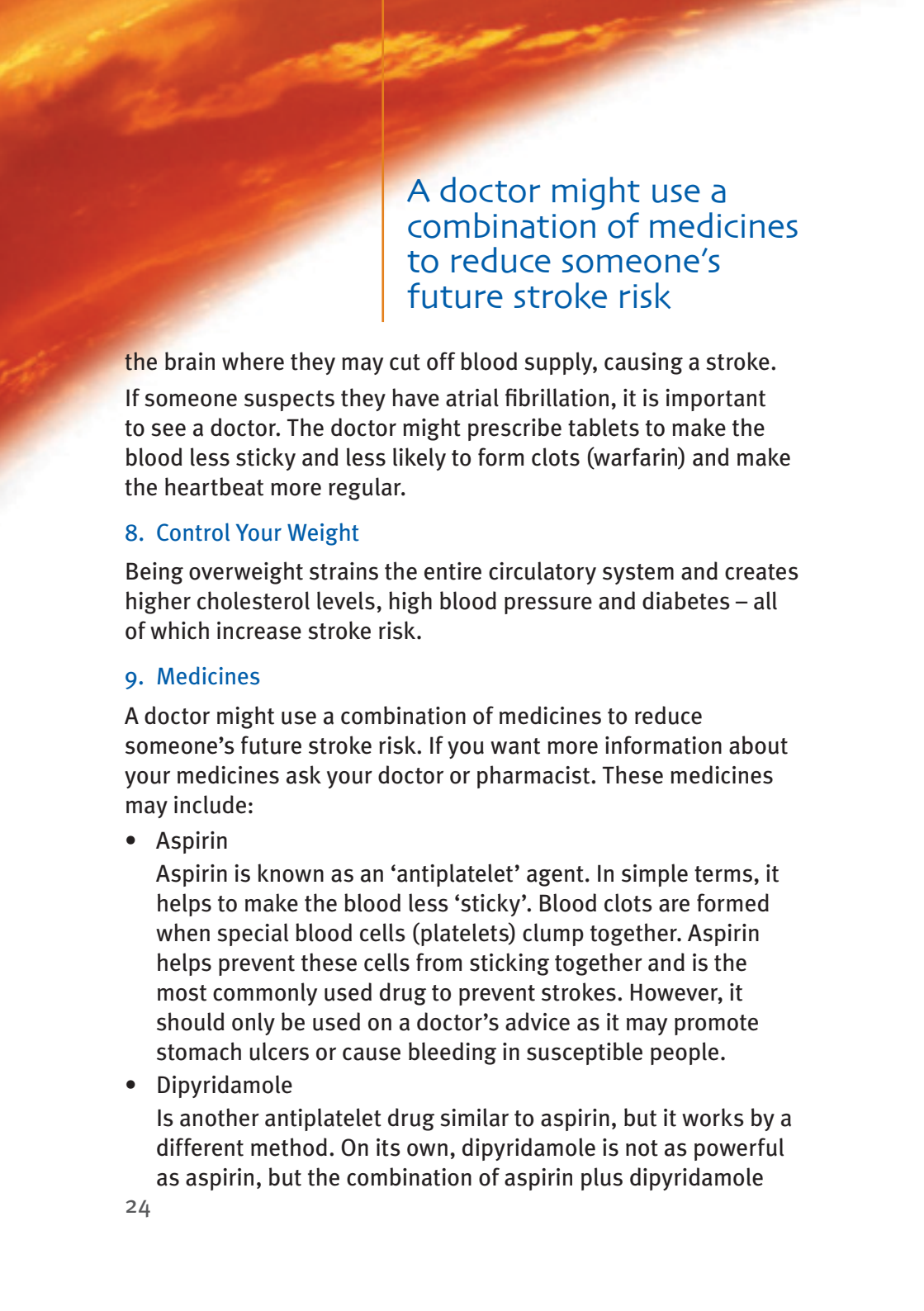
It is best to eat a balanced diet with lots of fresh fruit and vegetables, grains and a moderate amount of lean meat or low fat protein each day. Fruit and vegetables contain antioxidant vitamins and potassium, both good for the arteries. Fibre, such as cereals and whole grain bread, also helps reduce cholesterol.

6. Lower your cholesterol

Cholesterol is essential to all of the body's cells and normally the body will produce all the cholesterol it requires. Consuming foods high in cholesterol and saturated fats may accelerate atherosclerosis. Keep on top of cholesterol levels by having a blood test and by being prepared to change eating habits. If necessary, a doctor might also prescribe a cholesterol lowering drug (called lipid-lowering agents, usually a 'statin').

7. Find out if you have Atrial Fibrillation

Atrial fibrillation is a type of irregular heartbeat. People with this condition have a five times greater stroke risk because the irregular heartbeat may lead to blood clots forming in the heart. These can then break off and travel through the blood vessels to



A doctor might use a combination of medicines to reduce someone's future stroke risk

the brain where they may cut off blood supply, causing a stroke. If someone suspects they have atrial fibrillation, it is important to see a doctor. The doctor might prescribe tablets to make the blood less sticky and less likely to form clots (warfarin) and make the heartbeat more regular.

8. Control Your Weight

Being overweight strains the entire circulatory system and creates higher cholesterol levels, high blood pressure and diabetes – all of which increase stroke risk.

9. Medicines

A doctor might use a combination of medicines to reduce someone's future stroke risk. If you want more information about your medicines ask your doctor or pharmacist. These medicines may include:

- Aspirin
Aspirin is known as an 'antiplatelet' agent. In simple terms, it helps to make the blood less 'sticky'. Blood clots are formed when special blood cells (platelets) clump together. Aspirin helps prevent these cells from sticking together and is the most commonly used drug to prevent strokes. However, it should only be used on a doctor's advice as it may promote stomach ulcers or cause bleeding in susceptible people.
- Dipyridamole
Is another antiplatelet drug similar to aspirin, but it works by a different method. On its own, dipyridamole is not as powerful as aspirin, but the combination of aspirin plus dipyridamole

is more effective at preventing recurrent stroke than aspirin alone. Specialist authorisation for funding of treatment with dipyridamole is currently required. However, the cost is less than \$1 a day and some people may wish to consider this treatment after a stroke or TIA has occurred, even if they do not meet government funding criteria. Your doctor can provide more information. The main side-effect from dipyridamole is headache, which can affect up to one-third of people who take the drug, causing them to stop taking it.

- Blood pressure lowering drugs
Lowering blood pressure, even if it was not high beforehand, has been proven to reduce the risk of further strokes. There are many different drugs used to lower blood pressure, and people often need two or more different ones to control their blood pressure.
- Cholesterol lowering drugs
The most common drugs to lower cholesterol are called 'statins' because the actual name of the drug ends with 'statin' (eg simvastatin, atorvastatin, pravastatin) although the trade name may be different. They are highly effective drugs for preventing strokes and heart attacks, and work best when following a healthy diet.
- Warfarin
Warfarin is an anticoagulant (blood thinner) used particularly in people who are at high risk of forming blood clots because of atrial fibrillation or a blood-clotting problem. Treatment with Warfarin requires careful monitoring and is not suitable for everybody.
- Other medicines are sometimes used and a doctor will explain the need for these.

10. Operations

Some people may benefit from an operation if they have a severe narrowing of the main blood vessels in the neck (carotid stenosis).

STROKE RISK FACTORS – SELF ASSESSMENT SCORECARD

Risk Factors	0	1	2	3	Current Score 1	Current Score 2
Smoked	Never smoked	Quit after smoking for less than five years	Current smoker, less than 20/day	Current smoker, more than 20/day		
Exercise	1 hour strenuous activity at least 3 times/week	Very active once or twice a week	Moderately active once or twice a week	Very little physical activity		
Diabetes	None known	–	Family history	Diabetic		
Blood pressure	Normal	Mild high blood pressure	Moderate high blood pressure	Severe high blood pressure		
Age	0 – 44	45 – 65	65 – 74	75+		
Alcohol (Male)	0 – 4 standard drinks/week	Up to 4 drinks/day	Greater than 4 drinks/day, 2 or more days/week	Greater than 6 drinks/day, 4 or more days/week		
Alcohol (Female)	0 – 2 standard drinks/week	Up to 2 drinks/day	Greater than 2 drinks/day, 2 or more days/week	Greater than 4 drinks/day, 4 or more days/week		
Weight	About average for height	Slightly overweight	Moderately overweight	Obese		
Family history	No strokes known	A relative has had a stroke	A relative has had a stroke while younger than 65	Several relatives have suffered from a stroke		
Cholesterol	Below average	Average	Moderately raised	Severely raised		
TOTAL						

INSTRUCTIONS

Add up your total score. The lower your score, the better. The higher your score, the greater your risk of having a stroke.

Work out your risk of having a stroke on our self-assessment scorecard. Then work out where you can reduce the risk factors that apply to you. Getting rid of even one risk factor significantly reduces your risk of having a stroke in the next few years.

CHECK YOUR RESULTS

0–4 Very low risk – Congratulations!

5–9 Moderate risk – Try to do something about risk factors you can change

10–13 High risk – Seek advice on stroke prevention from your doctor

14+ Very high risk – See your doctor today

Stroke Foundation overview and contact details

The Stroke Foundation is the only organisation in New Zealand solely dedicated to reducing risks of stroke and improving the outcomes for stroke survivors nationwide.

NATIONAL OFFICE

Responsible for raising awareness of stroke, prevention of stroke, improving outcomes for stroke survivors, advocacy, education, information and national events. The National Office provides service to the four regions.

Phone: 0800 78 76 53 or 04 472 8099

Fax: 04 472 7019

Postal: PO Box 12-482, Wellington

Email: strokenz@stroke.org.nz

Website: www.stroke.org.nz

REGIONAL OFFICES AND FIELD OFFICER SERVICE

Between them, the four Regional Offices of Stroke New Zealand support over 40 Field Officers and 100 Stroke Clubs throughout New Zealand. The Field Officer network provides information, care, support and rehabilitation for stroke survivors and caregivers.



O F N E W Z E A L A N D I N C

0800 78 76 53
www.stroke.org.nz



NORTHERN REGION

Postal: PO Box 31-237, Milford, Auckland 0741

Phone: 09 441 8959

Email: *northern@stroke.org.nz*

MIDLAND REGION

Postal: PO Box 990, Tauranga 3140

Phone: 07 571 3061

Email: *midlandregion2@paradise.net.nz*

CENTRAL REGION

Postal: PO Box 639 Coastlands, Kapiti Coast

Phone: 04 298 8585

Email: *central@stroke.org.nz*

SOUTHERN REGION

Postal: PO Box 26-024, Richmond, Christchurch 8148

Phone: 03 381 8500

Email: *southern@stroke.org.nz*

**TO MAKE A DONATION TO THE STROKE FOUNDATION,
CONTACT US ON**

0800 78 76 53
www.stroke.org.nz



Is your cholesterol at target? Are you on cholesterol-lowering medication?

If not, *ACT NOW*
Achieve Cholesterol Targets

Lowering your cholesterol to target can lower your risk of a heart attack or stroke.

To find out more about cholesterol targets ask your Doctor at your next visit. You can also find out more through the ACT NOW programme. You will receive a **FREE** information pack and ACT NOW magazine. It is full of interesting facts and tips on heart health. Joining is easy, just send in the coupon below via freepost or

call 0800 43 57 89 or visit www.cholesterol.co.nz

Name

Address

Post to **ACT NOW**,
Freepost Authority
Number 4325,
PO Box 37-012,
Parnell, Auckland.

Age: under 35 years ☐ 35-49 ☐ 50-65 ☐ over 65 years ☐

☐ Please tick this box if you wish to receive further information from Pfizer New Zealand.

I am currently taking the following cholesterol-lowering medicine:

ACT NOW is a programme of Pfizer New Zealand Limited.

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