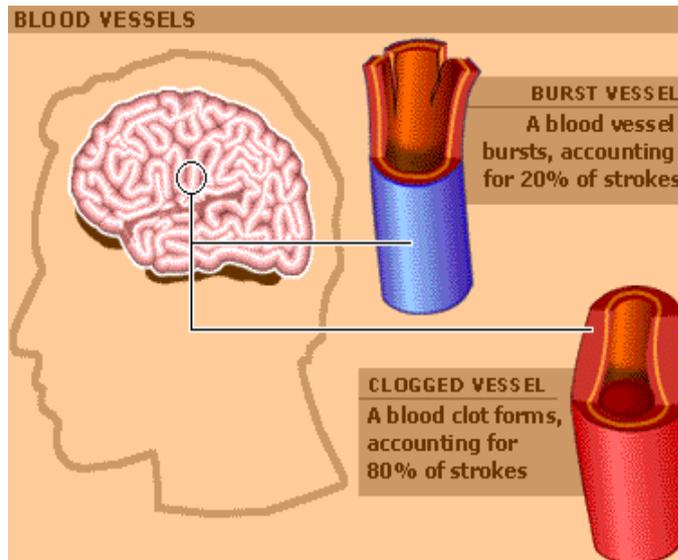


## Stroke Services

# Information about Strokes



This booklet has been produced by the Coventry and Warwickshire Cardiovascular Network to help you to:

- Understand what causes a stroke.
- Know how to deal with a suspected stroke.
- Obtain advice about the lifestyle changes that can be adopted to help to reduce the risk of having a stroke.

## What is a stroke?

Stroke is a very dangerous condition which, if not diagnosed and treated early, can lead to considerable long term disability, affecting your ability to live an independent and active life.

It is also a serious threat to life, being the third most common cause of death in the United Kingdom, after cancer and coronary heart disease.

The disability that can result from a stroke will not only have a devastating effect on you, the sufferer, but will also totally alter the lives of those close to you.

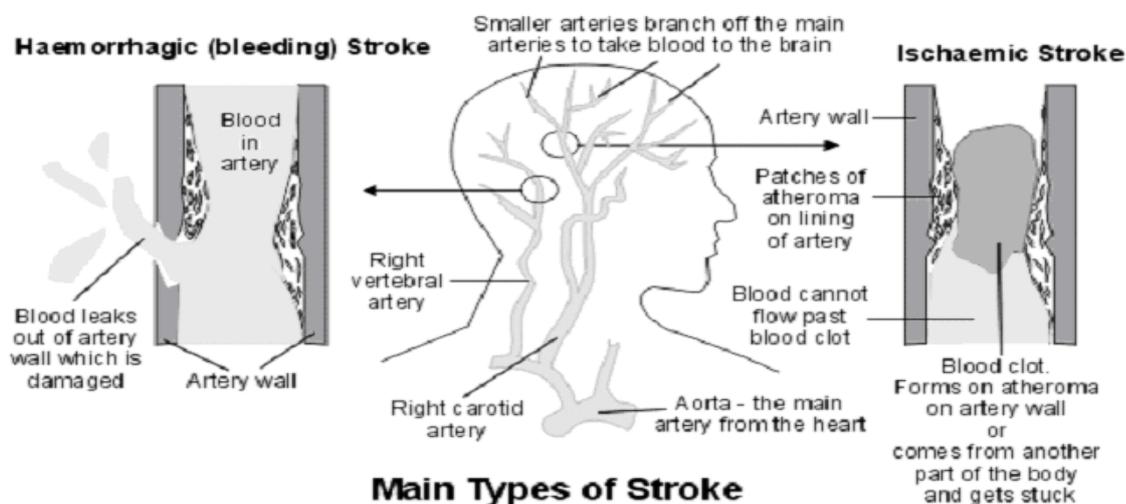


## Patient Information

A stroke happens when the blood supply that carries oxygen and essential nutrients to the brain is interrupted. When the brain is starved of oxygen and nutrients such as glucose, the cells can become damaged very quickly or even die.

Since the brain is the control centre of the body, any damage to its nerve cells will result in some loss of function somewhere in the body. This will depend on the area of the brain affected by the damage and that is why stroke warning signs can differ quite noticeably.

**There are two main types of stroke:** Haemorrhagic and Ischaemic



## Ischaemic stroke

This is by far the most common type of stroke and is responsible for over 85% of stroke cases.

Ischaemic stroke can be caused by two different types of clot:

- One is a blockage in one of the arteries in the brain, as a result of a blood clot that has formed within the blood vessel itself. This is known as a thrombotic stroke.
- If the clot has travelled from another part of the body (most often the heart or carotid artery in the neck) and lodged in the artery, it is known as an embolic stroke.

Both of these clots cut off the flow of blood to the particular area of the brain that the artery nourishes.

### Haemorrhagic Stroke

This is the name given to the type of stroke caused by bleeding within the brain when a weak area in the wall of an artery bursts. About 15% of people showing signs of a stroke will have suffered a haemorrhagic stroke.

It can be divided into two main types of bleeding (haemorrhage):

- **Intracerebral haemorrhage**
- **Subarachnoid haemorrhage**

In **intracerebral haemorrhage**, one of the arteries inside the brain bursts, causing bleeding within the brain itself. This results in damage to the nerve cells from the pressure exerted on them by the leaking blood cutting off access to oxygen and nutrients.

In **subarachnoid haemorrhage**, a weak spot in an artery on the surface of the brain bleeds into the space between the skull and the brain, known as the subarachnoid space. This again causes pressure which can damage the brain.

### What can happen if you have a stroke?

Because the brain is such a complex organ, responsible for the control of what happens in your body, it will very much depend on the type of stroke and the specific area of the brain that is deprived of its blood supply, as to how the body will react to this deprivation.

The blood supply to the brain is as complex as the brain itself, with major arteries dividing into a large number of smaller blood vessels, all of which nourish a particular part of the brain.

The actual initial damage caused will result from whichever area of the brain is affected. You may have:

- Drooping of the eye and mouth
- Extreme muscle weakness or paralysis on one side of the body
- Eye problems, such as blurring of your vision, double vision, loss of part of your vision and sensitivity to light
- Difficulty in swallowing
- Difficulty speaking and an inability to speak coherently

## Patient Information

- An inability to understand what is being said to you.
- Hearing difficulties
- Alteration to the way you smell and taste things

It is also possible that you may suffer a change of personality, making you either more impatient or slower to react to your environment than you were before.

Memory loss can also be a huge challenge.

It is, therefore, not surprising that you may suffer from depression as a result of having a stroke.

Recovery from a stroke will depend on the extent of the damage caused by the clot or bleeding. In some cases you may be able to recover reasonably well with intensive treatment; in other cases it is possible that some disability, as indicated in the list above, will be lifelong, requiring long term care.

Whatever the cause of the stroke, you will find that the signs are very sudden. This is a serious medical emergency, requiring urgent diagnosis and treatment in hospital.

## Act FAST

You may have heard of the **FAST** campaign or seen the advertisements on television and in the press, advising you about what to do if you think you see the signs of a stroke.

Stroke can happen anywhere, anytime and to anyone, so follow the advice and **call 999 immediately** if anyone around you suffers from any one of the following symptoms:

**F - Facial weakness** – can they smile? Has their eye or mouth drooped on one side?

**A - Arm weakness** – can they raise both their arms and keep them there?

**S - Speech** – do they have any speech problems? Can they speak clearly and understand what you are saying to them, or is their speech slurred?

**T - Time** to act if you see any one of these signs.

**Act FAST and call 999.**

## Patient Information

By calling 999, allowing access to early treatment, further damage to the brain can be halted.

### **Transient Ischaemic Attack (TIA)**

Transient Ischaemic Attack (known as TIA and sometimes referred to as a mini stroke) may initially appear similar to a full blown stroke, but the signs, as indicated in the **FAST** information, may only last for a short time – anything from a few minutes up to 24 hours, with no lasting damage. However, these signs are no less important, because they indicate an interruption to the brain's blood supply, perhaps from a small blood clot which has then managed to work its way out of the artery, thus causing no residual damage.

This attack is a warning that a more serious event could occur.

It is a strong predictor of stroke and so medical help should again be sought as soon as possible. **Never ignore this warning, no matter how short the episode seems to be!**

There is treatment available

Dial 999 – it is better to be safe than sorry!

### **Risk Factors**

Knowing if you could be at risk of suffering from a stroke can help you to adapt your lifestyle to lower the risk of actually having a stroke.

Risk factors can be divided into 2 distinct groups:

- Factors over which you unfortunately have no control
- Factors over which you will have some control, (sometimes with your GP's help) and which you can influence to significantly reduce your chances of having a stroke

### **Factors over which you have no control:**

#### **Age**

Even though stroke can affect people of all ages, including children, as we get older the risk of having a stroke increases. However, by adopting a healthier lifestyle and having regular medical checks you can help to reduce the risks.

## Patient Information

### **Gender**

Before the age of 55, men have a higher risk of having a stroke than women, but after this age the risk for both sexes is the same.

### **Heredity**

People whose close blood relatives have had a stroke are at higher risk than those without this family history.

### **Ethnicity**

Medical research undertaken in the UK has found that people living in this country of African, Afro-Caribbean and South Asian (from the Indian sub-continent) origin are at higher risk of having a stroke. This is partly because they have higher risks of high blood pressure, diabetes and obesity. They are also more likely to suffer from a stroke at an earlier age.

Child descendants of parents from Africa, the Middle East and some European countries, who have the inherited disease, sickle cell anaemia, are at risk of having a stroke before the age of 20.

### **Existing medical conditions**

If you have had a previous TIA, stroke or heart attack, then the chances of having a stroke (or another stroke) are greatly increased.

You will have a similarly increased risk if you have any form of heart disease.

## **Factors over which you will have some control:**

### **High blood pressure (hypertension)**

When you have your blood pressure 'taken' (or measured), two measurements are recorded: the systolic pressure and the diastolic pressure.

The systolic pressure is the force that the heart places on the walls of your blood vessels as it pumps your blood with each heartbeat.

The diastolic pressure represents the lowest pressure of the blood in your blood vessels when the heart rests between each beat.

## Patient Information

Normal blood pressure is usually set at 120 systolic and 80 diastolic; recorded as 120/80.

Hypertension is the medical term for high blood pressure which is the most important controllable risk factor for stroke. The problem is that you may not even know that you have it! So have your blood pressure checked at least once every year if you are over forty. The nurse at your local GP surgery will be happy to do this for you.

### **Smoking**

We all know the dangers of smoking cigarettes or any other form of tobacco use. Smoking is well known for causing lung disease, but the nicotine, carbon monoxide and other toxins in tobacco smoke can seriously affect the arteries throughout the body, raising blood cholesterol levels and causing narrowing and damage which may lead to heart disease and, of course, stroke. The risk increases considerably if you are a woman who smokes and you are on an oral contraceptive.

### **Overweight, obesity and physical inactivity**

Alone or in combination, excess weight and a sedentary lifestyle can increase your risk of stroke and heart disease. Being overweight or obese will probably mean that you are less inclined to exercise, possibly leading to further weight gain. This can become a vicious circle that will increase your risk of stroke, as your heart has to work extra hard to keep the blood flowing around your body.

### **Diabetes**

Diabetes, in itself, increases the risk of stroke, despite treatment, particularly if it is uncontrolled, but people with diabetes may also have high blood pressure, a high blood cholesterol level and be overweight, which will further increase the risk of stroke.

### **Your daily diet**

With today's busy lifestyle, it is easy to get into the habit of eating a poor diet with too much salt, cholesterol in saturated fats/trans fats and too much sugar. These are often found in above average quantities in ready or takeaway meals.

## Patient Information

Cholesterol, a fatty substance produced by the liver, builds up in the blood and sticks to the arterial walls, causing the arteries to narrow which can lead to heart attack and stroke. This is known as atherosclerosis.

Salt can lead to high blood pressure and sugar plays a part in obesity, both of which are stroke risks.

### **Alcohol**

If you drink heavily on a regular basis, your blood pressure will be raised and you will risk damaging your heart and liver, as well as increasing the risk of having a stroke.

Drinking heavily on one night a week only (binge drinking), whilst abstaining for the rest of the week, is similarly very hazardous.

### **Drug abuse**

Stroke risk is higher in people who rely on so-called recreational drugs to help them to cope with stress or depression. Cocaine, in particular, is strongly linked to haemorrhagic stroke.

### **Adopting a healthier lifestyle**

In the past stroke was greatly feared, with the risk of life-long disability or death as the inevitable outcome. Not enough was known to enable people to take charge of their lives and change the way they lived to prevent what we now know is a largely preventable disease. Similarly, there was not the medical knowledge to support us, nor were there the drugs we now have to prevent and treat the diseases which lead to stroke or to treat stroke itself.

Though the disease itself is no less serious today, the key to reducing the risk of stroke is to be aware of these risks and examine ways in which to make ourselves healthier.

With this knowledge, you will be able actively to take charge of your daily life to reduce the risk of stroke, not just for yourself but, by example, for your family.

### **High blood pressure (Hypertension)**

Your blood pressure will fluctuate throughout the day, dependent on what you are doing at the time. Many people can have a temporary rise in blood

## Patient Information

pressure and this is usually in response to external factors such as stress, caffeine, smoking, pain or even the act of having the blood pressure taken in the doctor's surgery!

However, if your blood pressure is consistently over **140/80**, then you will need to get medical advice to control it.

If you are diabetic, your blood pressure should remain below **130/80** to reduce the risk of a stroke.

Your doctor will help you with prescription medication, if it is felt that this is required, otherwise you will need to follow the lifestyle advice offered in this booklet and also by your health professionals.

Do not ignore this important warning sign, even though you may feel totally well!

### Smoking

Stopping smoking is one of the best things you can do for your lungs, your heart, your arteries and health in general. By stopping smoking you could halve the risk of having a stroke.

However, it is also recognised that it can be very difficult to stop!

By stopping smoking, you can also help to preserve the health of those close to you, who will otherwise suffer from the effects of your smoke.

Non-smoking aids, such as nicotine patches, gum, lozenges, nasal sprays, inhalators etc. are now readily available from a variety of sources:

- Your GP surgery
- A smoking cessation programme
- Over the counter in pharmacies and large supermarkets

If you find it difficult to stop on your own, you will probably be able to join a support group.

## Patient Information

At the end of this booklet are some useful telephone numbers you can contact to help you to stop smoking, or to point you in the right direction to get the help you may need. But don't forget that your GP surgery will be more than happy to support you in your endeavour to stop smoking.

### **Healthy eating**

Aim for a diet that is low in salt, cholesterol and saturated fats.

It is neither as difficult nor as boring as it first sounds. Nor is it necessarily more expensive. It just takes a bit of thought when shopping, for instance reading the information labels on food can help you to make a healthy choice.

A diet with lean meat, not too much red meat, and regular portions of oily fish such as salmon and mackerel, wholemeal bread and plenty of fruit and vegetables, which are rich in fibre, is not only healthy, but quite filling. So you may find that you don't need to eat fried foods, biscuits, and cakes to satisfy your appetite.

Reduce your salt intake over a period of time and your body won't notice that you have cut down, whereas if you stop taking salt suddenly you will notice the change in the taste of your food. Aim to have no more than the equivalent of 1 - 1½ teaspoons of salt per day. By doing this you will not only help to stabilise your blood pressure, but will also help your heart and kidneys.

Use pepper, spices and herbs to enhance the taste of your food instead.

Similarly, reducing the amount of sugar that you consume can be done on a gradual basis, particularly if you take sugar in tea, coffee, etc. You will be amazed how soon your taste buds get used to not having such a sweet taste.

Don't let your children eat too many sweets; introduce them to fruit as early as possible.

## Patient Information

If you change to a healthy diet, you may also find that it is easier to maintain a healthy weight. This will help to keep your blood pressure within normal limits and help you to maintain a healthy heart.

Changing the way you eat is not 'going on a diet'. It's a lifestyle change which is also a health bonus!

### **Exercise**

The very word 'exercise' may have some people rushing for the sofa! But it is not necessary to do weight or circuit training to maintain a healthy weight and lifestyle, that is, unless you want to!

Subtle changes in the way you conduct yourself, for example, by increasing your daily activity by walking instead of taking a bus or the car (where possible), using the stairs instead of the lift, will help you to maintain a more active way of life.

Brisk walking, cycling, swimming, dancing, etc. for 20-30 minutes at least 3-4 times a week will contribute to a more active lifestyle.

Regular exercise and a more active lifestyle can help to reduce and stabilise your blood pressure, particularly if it is only mildly raised.

### **Alcohol**

Alcohol is a liquid drug which can be addictive, but it is also very pleasant in the social setting. A glass of wine can make all the difference to the enjoyment of a meal, as can a cold beer on a hot day!

But alcohol is very high in 'empty' calories and can contribute to unwanted weight gain. It is also responsible for raising the blood pressure, if there is regular over-consumption and has a more well-known effect on the liver and heart.

Stay within the maximum recommended guidelines of 14 units a week for a woman and 21 units a week for a man, with two alcohol free days in the week, unless your doctor has recommended that you drink less than these amounts for an existing medical condition.

## Patient Information

A glass of wine (maximum 125mls.) or a glass of beer (½ pint) or a tot of spirits (one single measure) is equivalent to 1-1½ units.

It is also very important to advise your children of the dangers of over-consumption of alcohol; setting an example yourself to counteract peer group pressure from school, college etc.

### Existing medical conditions

If you are already suffering from a heart condition, diabetes or other form of chronic illness or have had a previous stroke or TIA, it is possible that your blood pressure is already higher than it should be. This will increase your risk of a stroke (or another stroke).

An irregular heart beat, known as **atrial fibrillation**, is fairly common as we get older and can increase the risk of stroke by causing blood clots to form in the heart which can then travel via the arteries to the brain, blocking the blood supply to part of the brain.

It can be treated by medication to control the heart rate and also by drugs that reduce the risk of blood clots.

Persistent **atrial fibrillation** may also be treated by a technique called **cardioversion** which is treatment, delivered as a day case procedure, to normalise the rhythm of the heart.

Your cardiologist will discuss the best way to treat your individual condition with you.

Diabetes affects 1 in 20 older people and, as previously indicated, can significantly increase the risk of stroke. Good control of diabetes is essential by attention to diet, regular blood and urine monitoring and medication if your doctor feels that this is necessary.

It is very important that you, with the help of your GP, hospital consultant and specialist nursing staff keep a check on your health, following any advice given and taking any prescribed medication. Report any concerns you may have as they occur, don't wait to see if they will get better without help.

## Patient Information

Occasionally, prescribed medication can cause unwanted side effects that you find difficult to tolerate. Talk to your doctor about this, **but never stop taking your medicines** without medical advice.

Very often changing from one drug to a similar one is all that will be needed to make things easier for you.

## Stress

We all need a certain amount of stress to motivate us and make life more interesting. Life without challenges can be boring, but excessive, unresolved stress over a period of time can be harmful to health.

In order to avoid what is thought to be one of the causes of high blood pressure, it is essential to adapt your lifestyle by learning to relax.

Listening to your favourite music, watching a favourite programme on television, going for a walk in the country or reading a good book are all ways of reducing stress, without having to go to the lengths of attending stress management classes, unless this is your preferred way of coping with stress.

Deep breathing and massage are also ways in which you can manage stress and help to lower stress-induced high blood pressure.

For some people having a pet and looking after it can also help to relieve stress.

## Medication

### Drugs to reduce high blood pressure:

These drugs are known as antihypertensives. There are many different types of antihypertensives they include:

- Diuretics (water tablets)
- ACE inhibitors (which affect kidney hormone levels)
- Calcium channel blockers (which affect the blood vessels)

Your doctor will chose the most suitable type for you.

## Patient Information

Many patients will need more than one type of antihypertensive in order to control their blood pressure.

### **Drugs to prevent blood clots:**

#### **Warfarin**

This drug works by reducing the risk of your blood forming clots and is particularly useful if you have an irregular heart beat (atrial fibrillation). You will need to have regular blood checks when taking Warfarin, in order to make sure that you are taking the right amount.

#### **Direct oral anticoagulants (DOACs)**

**There has been a recent development in the treatment to prevent blood clots with the use of new drugs called Dabigatran, Apixaban, Rivaroxaban and Edoxaban, but these can only be given if the patient meets certain criteria. Your consultant will discuss this with you, if it is felt that you would benefit from this option.**

### **Drugs to help thin the blood:**

- Aspirin
- Clopidogrel

These drugs are used to thin the blood following a stroke or TIA. Your doctor will choose the most suitable drug or combination of drugs for you.

### **Drugs to help to lower blood cholesterol:**

#### **Statins**

There are several different types of statins available and these include simvastatin and atorvastatin.

These drugs are taken daily to reduce the level of cholesterol in the blood.

There are 2 types of cholesterol:

- **LDL (Low Density Lipoprotein)** or 'bad' cholesterol – this type of cholesterol makes its way into the bloodstream to form the plaque which can block the arteries.
- **HDL (High Density Lipoprotein)** or 'good' cholesterol - this removes excess cholesterol from the circulation and carries it back to the liver for 'recycling'

## Patient Information

When statins are taken, HDL is usually increased and LDL is decreased, to allow a healthy balance.

### **‘Clot busting’ drugs**

If you are unfortunate enough to suffer from an ischaemic stroke and you or your family have followed the FAST advice, then you may be able to receive alteplase (Actilyse), a ‘clot busting’ drug given in hospital, after the diagnosis has been confirmed. It cannot be given in the case of a haemorrhagic stroke, but if your stroke has been caused by a clot, then your consultant will let you know if he/she feels you would benefit from this treatment.

### **A new way of treating some strokes- Thrombectomy**

Finally, for some patients there is a new treatment called thrombectomy. This is a surgical procedure used to remove a clot from the brain. Your consultant will let you know if they think you are suitable for this procedure. Currently this is undertaken at the Queen Elizabeth Hospital in Birmingham, so you may need to be transferred there if your consultant feels you could benefit from it.

## **Driving**

You must not drive for a minimum of one month following a stroke.

You do not need to inform the DVLA in this first month but you should inform your insurance company.

More information about driving following a stroke can be found in our other leaflet “Driving after a stroke or TIA”. Please ask for a copy.

DVLA: [www.direct.gov.uk/driverhealth](http://www.direct.gov.uk/driverhealth)

We hope that reading this booklet has been helpful to you and that you will find it a useful resource to keep by you, to help you to understand stroke risks and what you can do to prevent them.

It is intended to be a ready reminder, pointing you in the right direction to get more detailed information and not to take the place of any professional help and advice, if this should ever be needed.

If you want any further information, below is a list of useful addresses, and telephone numbers to assist you:

## Patient Information

### **The Stroke Association**

Stroke House  
240 City Road  
London  
EC1V 2PR

Telephone number: (Stroke Helpline) 0303 3033 100 [www.stroke.org.uk](http://www.stroke.org.uk)

### **Different Strokes**

9 Canon Harnett Court  
Wolverton Mill  
Milton Keynes  
MK12 5NF

Telephone number: 0845 130 71 72 or 01908 317618  
[www.differentstrokes.co.uk/](http://www.differentstrokes.co.uk/)

**This is a very useful web-site, particularly aimed at the younger stroke sufferer.**

### **British Heart Foundation**

Greater London House  
180 Hampstead Road  
London NW1 7AW  
Tel: 020 7554 0000

Heart Information Line: 0300 330 3311 [www.bhf.org.uk](http://www.bhf.org.uk)

### **Arrhythmia Alliance**

PO Box 3697  
Stratford upon Avon  
Warwickshire CV37 8YL

Telephone number: 01789 867501 [www.heartrhythmcharity.org.uk](http://www.heartrhythmcharity.org.uk)

## Patient Information

### **NHS Smoking Helpline**

Telephone number: 0300 123 1044 [smokefree.nhs.uk/](https://smokefree.nhs.uk/)

### **Stop Smoking Coventry**

Telephone number: 0300 200 0011 [www.coventrypct.nhs.uk](http://www.coventrypct.nhs.uk)

### **Warwickshire Stop Smoking Service**

Telephone number: 0800 085 2917 [www.smokefreewarwickshire.org](http://www.smokefreewarwickshire.org)

### **Age UK Coventry (Age Concern)**

Alyvn Smith House, 7 Warwick Row, Coventry, CV11EX.

Telephone number: 024 7623 1999 [www.ageuk.org.uk/coventry/](http://www.ageuk.org.uk/coventry/)

### **Age UK Warwickshire**

Head office, 8 Clemens Street, Leamington Spa, Warwickshire, CV31 2DL

Telephone: 01926 458 100

### **Or nationally:**

### **Age UK**

Tavis House, 1-6 Tavistock Square

London WC1H 9NA

National free helpline: 0800 169 8787 [www.ageuk.org.uk](http://www.ageuk.org.uk)

### **Diabetes UK (Hounslow)**

10 Parkway

London

NW1 7AA

Telephone number: 0207 424 1000 /0345 123 2399 [www.diabetes.org.uk](http://www.diabetes.org.uk)

## Patient Information

### **Blood Pressure Association**

Helpline open 11am – 3pm Monday – Friday

Telephone number: 0845 241 0989 [www.bloodpressureuk.org.uk](http://www.bloodpressureuk.org.uk)

### **The National Institute of Neurological Disorders and Stroke**

[www.ninds.nih.gov](http://www.ninds.nih.gov)

### **Food Standards Agency**

[www.foodstandards.gov.uk](http://www.foodstandards.gov.uk)

### **Food Commission**

2nd Floor, 94 White Lion Street

London. N1 9PF [www.foodcomm.org.uk](http://www.foodcomm.org.uk)

In conclusion, I should like to thank Dr. Anthony Kenton, consultant neurologist, Clinical Lead for Stroke, Sue Thelwell and the staff of University Hospitals Coventry and Warwickshire NHS Trust, George Elliot Hospital, Nuneaton and South Warwickshire Hospital and Norman Phillips, stroke survivor/ expert patient, for their advice and help in producing this booklet.

Peggy Coleman - Project Lead Coventry and Warwickshire Cardiovascular Network

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact us on 024 7696 8336 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

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