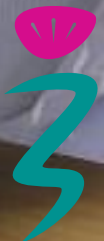


HEART SERIES H4

LIVING WITH HIGH BLOOD PRESSURE

Chest
Heart &
Stroke
Scotland



Chest Heart & Stroke Scotland



**Chest Heart &
Stroke Scotland, is
an independent
medical charity
which aims to
improve the quality
of life for people in
Scotland affected by
chest, heart and
stroke illnesses,
through medical
research, advice and
information and
support in the
community.**

FUNDRAISING

CHSS is an independent Scottish medical charity. We receive no Government funding and rely entirely on the Scottish public to raise the £7 million a year we need to help people with chest, heart and stroke illness throughout Scotland.

RESEARCH

We are one of Scotland's largest charitable funders of medical research, with a programme worth over £600,000 a year. We fund research projects throughout Scotland into all aspects of the prevention, diagnosis, treatment and social impact of chest, heart and stroke illness.

PERSONAL SUPPORT GRANTS

We provide small grants to people in financial difficulty, because of chest, heart or stroke illness, for items ranging from disability equipment and household goods to respite care and holidays.

VOLUNTEER SERVICES

We give support to people whose communication skills are impaired after a stroke and those living with heart failure. The Volunteer Stroke Service (VSS) provides weekly group meetings and home visits for patients. The Heart Failure Support Service (HFSS) provides volunteer befrienders to reduce social isolation.

CHSS NURSES

Our nurses provide independent practical advice and support to those who have chest, heart and stroke illnesses, their families, carers and health professionals. There are dedicated nursing services in Fife, Forth Valley, Grampian, Highland, Lanarkshire, Lothian and Dumfries and Galloway. There is also a Scotland wide nurse led Advice Line (0845) 077 6000. Calls are charged at a local call rate (out of hours answerphone). We have a wide range of booklets, factsheets and videos on chest, heart and stroke illnesses.

COMMUNITY SUPPORT NETWORK

CHSS provides support to affiliated chest, heart and stroke clubs through the Community Support Network. The clubs are independent and are run by local volunteers. The groups provide a range of activities and offer people support, stimulation and companionship in a friendly and relaxed environment. Please ask for more information.

**FOR FURTHER INFORMATION ABOUT ANY OF
THE SERVICES ABOVE PLEASE CONTACT HEAD
OFFICE BY PHONING 0131 225 6963 OR VISIT
THE CHSS WEBSITE: www.chss.org.uk**

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UNDERSTANDING YOUR BLOOD PRESSURE

WHAT IS BLOOD PRESSURE?

Blood is pumped around your body through a network of blood vessels:

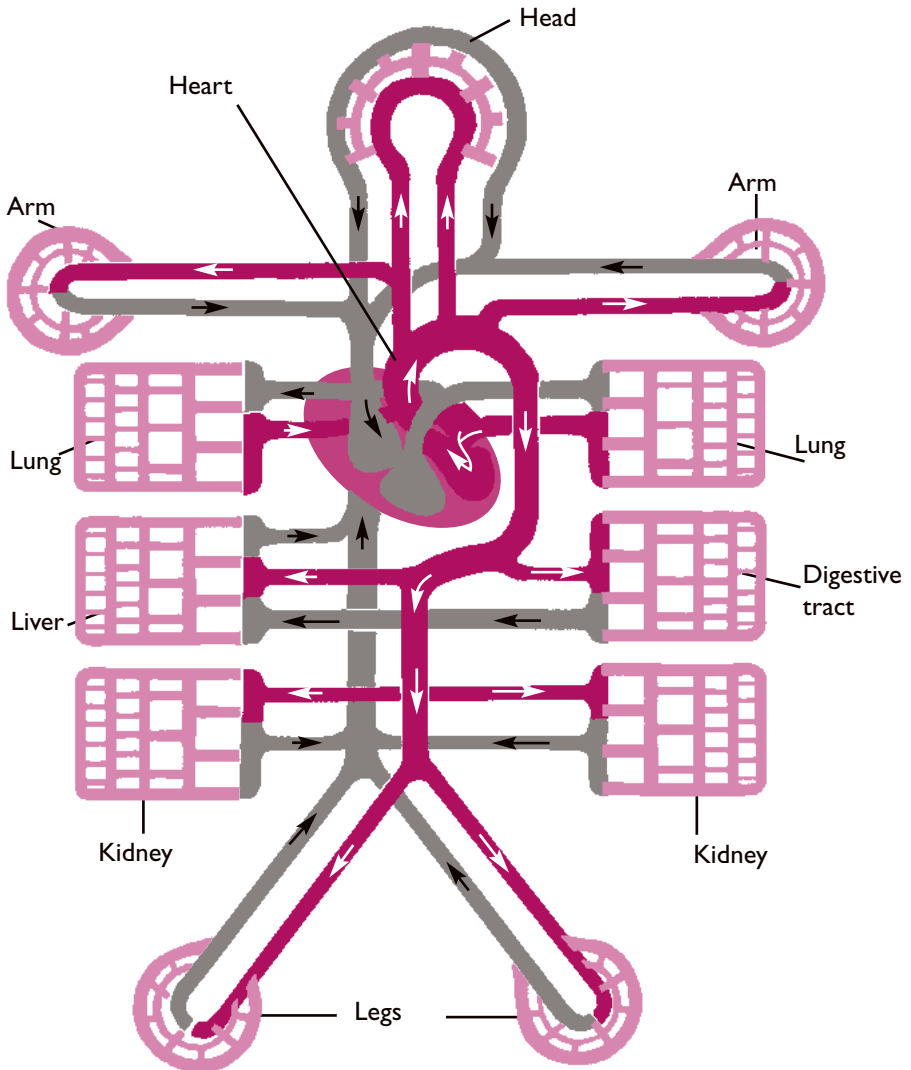
- Arteries transport oxygen-rich blood from your heart to all parts of your body. The arteries get smaller as they get further away from the heart.
- Capillaries are the smallest of blood vessels. They connect the smallest arteries to the smallest veins.
- Veins carry blood, lacking in oxygen, back towards your heart. The veins get bigger as they get nearer the heart.

Blood pressure is the measurement of the pressure within your arteries. It plays a vital role in the way your heart delivers fresh blood, containing all the oxygen and nutrients required, from your heart to all the blood vessels throughout your body.

In order for your blood to travel that far, quickly enough, it has to be under pressure. This pressure is created by the relationship between three things: your heart's pumping action, the size and stretchiness of your blood vessels and the thickness of your blood.

$$\begin{array}{c}
 \text{PUMPING ACTION OF THE} \\
 \text{HEART} \\
 + \\
 \text{SIZE AND STRETCHINESS OF} \\
 \text{THE BLOOD VESSELS} \\
 + \\
 \text{THICKNESS OF BLOOD}
 \end{array}
 =
 \begin{array}{c}
 \text{BLOOD} \\
 \text{PRESSURE}
 \end{array}$$

Some blood vessels have a layer of spiral muscle within their walls. This makes them able to widen or narrow depending on how much blood each part of your body requires. The action on these muscles is a very complex mechanism which is partly controlled by hormones.



Blood pressure can be compared to a central heating system. Three vital components work together to make the system work: the boiler (heart), the pipes (blood vessels) and the hot water (blood). The radiators are the different organs and parts of the body.

In order for the same amount of heat to be delivered to the furthest away radiator, the boiler has to send the water out under pressure. The size of the pipes will affect this pressure as will the power of the boiler itself.



RECORDING BLOOD PRESSURE: WHAT THE NUMBERS MEAN

Your blood pressure is measured in millimetres of mercury (mmHg) and is recorded as two readings:

- **Systolic pressure (the higher reading)**
Records the pressure within your blood vessels as your heart contracts and forces blood out into your arteries.
- **Diastolic pressure (the lower reading)**
Records the pressure when your heart relaxes and fills up with blood again.

These readings are recorded for example as 120/80mmHg.

WHAT IS NORMAL BLOOD PRESSURE?

Most doctors agree that the ideal blood pressure is around 120/80mmHg.

The aim is to keep your blood pressure as close to the 'target' range as possible:

- This is currently 140/90mmHg or less.
- If you have diabetes the lower target range of 130/80mmHg is used.

If your blood pressure is within this range you have a lower risk of heart disease and stroke.

Your blood pressure is considered to be low if it is less than 90/60mmHg. Some people naturally have a low blood pressure; other people may have low blood pressure as a result of illness or treatment.

WHAT IS HIGH BLOOD PRESSURE?

If your blood pressure is consistently higher than it should be it is called high blood pressure or hypertension.

High blood pressure is not a disease in itself. However, it can lead to an increased risk of heart disease and strokes.

Types of high blood pressure

There are two main types of high blood pressure:

- Secondary hypertension

This is when the change in blood pressure comes as a result of (or secondary to) a specific disease or defect. This is rare and is caused by conditions such as kidney disease, problems with glands that produce hormones, and congenital problems affecting a blood vessel near the heart or brain.

- Essential (or primary) hypertension

This is the type of high blood pressure that most people have. With primary hypertension there is no specific disease process involved and there is likely to be no single cause.

It is normal for blood pressure levels to go up and down throughout the day. This is why there is a normal range of blood pressures and not one correct answer.



WHAT CAUSES HIGH BLOOD PRESSURE?

Primary hypertension is usually a result of a number of factors, known as risk factors:

- Some risk factors you cannot control, such as your age, family history or ethnic origin.
- Most risk factors you can control and are to do with the way you lead your life, for example, being overweight, how active you are, having a high salt intake, having a high alcohol intake and how you cope with stress.

Making changes to these lifestyle risk factors can significantly reduce high blood pressure in some people, improve your overall health and reduce your risk of heart disease and strokes.



WHY IS HIGH BLOOD PRESSURE DANGEROUS?

Over the years high blood pressure slowly damages your blood vessels, making them narrower and more rigid. This means that your heart has to work harder to push the blood through your vessels, making your overall blood pressure rise even more. This can lead to serious problems throughout your body.

Without careful monitoring and treatment high blood pressure can cause:

- angina and heart attacks due to damaged and blocked arteries supplying blood to the heart
- heart failure as the heart has to work much harder
- strokes due to damage to the blood vessels in the brain
- kidney failure due to damage to the arteries in the kidneys
- vision problems and blindness due to damaged blood vessels in the eyes

Heart disease and stroke are sometimes put together using the term ‘cardiovascular disease’ (CVD). Because high blood pressure puts you at an increased risk of cardiovascular disease your doctor may do a cardiovascular risk assessment to help decide what treatment is best for you. This involves looking at what other ‘cardiovascular risk factors’ you may have, i.e. things that put you at increased risk of heart disease and / or stroke.

The good news is that by detecting high blood pressure and treating it these problems can be prevented.

Sometimes a risk assessment tool is used to work out your CVD risk. Various findings such as blood pressure, cholesterol, weight, smoking and diabetes may be looked at.

These findings can be used to show your risk as a percentage, e.g. 10% CVD risk means that there is a 1 in 10 chance of experiencing heart disease or stroke in the next 10 years. Your doctor can then recommend possible treatment, or lifestyle management, as necessary.

See the CHSS booklets 'Reducing the risk of heart disease' and 'Reducing the risk of stroke' for more information.

HOW WILL I KNOW IF I HAVE HIGH BLOOD PRESSURE?

High blood pressure very rarely has any symptoms so there is usually nothing to tell you that anything is wrong. The only way to know your blood pressure reading is to have it measured. High blood pressure is more common as you get older so having it checked regularly is very important.

WHAT HAPPENS IF I HAVE HIGH BLOOD PRESSURE?

If you have been diagnosed with high blood pressure you will need a thorough check-up with your doctor. This is to look for any signs of damage (e.g. to your eyes or kidneys) and to get a detailed medical history to look for any possible causes.

- Your urine will be checked for protein and blood. This can indicate if you need your kidneys examined more closely, either to look for a cause of high blood pressure or to look for any damage to your kidney(s).

- You will have blood tests taken to check: your kidney function (by looking at the chemical balance within the blood stream); your hormone levels (as a possible cause of high blood pressure); your blood sugar level and your cholesterol level.
- Your heart will be checked by listening for evidence of any heart muscle damage and by having an ECG (electrocardiograph). This gives a tracing of the electrical activity of the heart.
- Your eyes will be looked into with an ophthalmoscope to examine the blood vessels at the back of the eye directly. Any damage to these vessels can be seen by the doctor.
- The condition of your circulation may be assessed by checking pulses in your wrists, legs and feet.



What treatment you receive to lower your blood pressure will depend upon your individual situation. Your doctor will take into account how high your blood pressure is as well as your ethnic origin, your general fitness, your age and any other medical conditions you might have before deciding what treatment is best for you.

If you have high blood pressure you will:

- have your blood pressure monitored regularly
- be given advice on making healthy lifestyle changes
- be treated with drugs to lower your blood pressure as necessary

The following sections look at each of these 3 points in more detail.

MONITORING BLOOD PRESSURE

WHEN SHOULD I HAVE MY BLOOD PRESSURE CHECKED?

It is recommended that you should have your blood pressure checked, as part of an overall cardiovascular risk assessment, at least every 5 years if:

- you are 40 years old or above
- you have a close relative (parent, brother, sister or child) who has had heart disease and / or stroke illness before the age of 65 (women) or 55 (men) or your family has a genetic cholesterol problem (called familial hypercholesterolaemia)

You should also get your blood pressure checked if:

- you are of Afro-Caribbean, Asian or Chinese descent as you will genetically have an increased risk of high blood pressure
- you are taking the contraceptive pill as it can sometimes cause a rise in blood pressure
- you are diabetic: diabetes can cause damage to blood vessels
- you are concerned about your lifestyle, e.g. being overweight, excess alcohol intake, high salt intake, high saturated fat diet, lack of exercise
- you go to the doctor with symptoms that could be related to having untreated high blood pressure
- you are taking any other prescribed drugs that may affect your blood pressure

If you have been diagnosed with high blood pressure then your doctor / nurse will monitor you closely to see how your blood pressure responds to treatment.

HOW IS BLOOD PRESSURE MEASURED?

Traditionally, blood pressure is measured using an instrument called a sphygmomanometer (also known as a ‘sphyg’). The cuff is wrapped around your upper arm, inflated and then slowly deflated. Meanwhile the person taking your blood pressure listens to the pulse of the main artery in your arm whilst looking at the readings. This method uses a column of mercury as a scale.

Nowadays electronic devices are often used to measure blood pressure. With an electronic device the cuff is still wrapped around your arm; however, it is set to automatically inflate / deflate and an electronic reading is taken. These devices do not use mercury but the reading is based on the same principle and means the same thing.



DOES MY BLOOD PRESSURE STAY THE SAME?

Your blood pressure fluctuates throughout the day, depending on what you are doing. For example, during physical work or exercise the muscles need a greater supply of blood and oxygen. If you are working hard mentally, e.g. you are concentrating or under stress, the demand is also greater.

To meet this demand, the blood flow has to be increased so your heart has to beat faster and harder and your blood pressure rises. When you are asleep your blood pressure is at its lowest. Even then, there are fluctuations as you dream.

As well as blood pressure levels going up and down throughout the day depending on demand, there are many other things that can affect your blood pressure. Hurrying, strong emotions, pain, alcohol, some drugs (including recreational drugs such as cocaine) and even a full bladder can all result in a misleading blood pressure reading.

GETTING AN ACCURATE READING

Some people suffer from a ‘white coat effect’ where their blood pressure rises at the thought of having their blood pressure taken.

If you are due to have your blood pressure taken:

- Remember to tell the person taking your blood pressure about any drugs you are taking.
- Try to relax.
- Sit quietly for at least 5 minutes beforehand.
- Make sure your bladder is empty.
- Try to avoid having a heavy meal immediately before.

If your blood pressure is ever found to be high, you should have it checked every year.

A one-off high measurement is not enough to make a diagnosis of high blood pressure. Often you will have your blood pressure closely monitored over a short period of time before any treatment is started.

You may be asked to have your blood pressure rechecked on at least 2 further occasions, usually about a month apart.

Sometimes your doctor may want you to monitor your blood pressure at home over a period of time. This can be either by monitoring your blood pressure yourself at home or by 24-hour ambulatory monitoring. Both these methods tend to produce lower readings than in a clinic setting.

HOME MONITORING

Home monitors allow you to measure your blood pressure yourself. The advantages of home monitoring include:

- Being able to take several recordings over a number of days or weeks. These recordings let you see what your blood pressure is doing and how it may be responding to blood pressure lowering drugs and / or lifestyle changes.
- Helping to reduce the ‘white coat effect’. Many people find that their blood pressure recordings are lower when taken at home.
- Allowing you to become actively involved in your care and the management of your blood pressure.

Home monitoring: things to remember

Before

- If you have been diagnosed with high blood pressure you should talk to your doctor / nurse before you start monitoring your blood pressure at home. It's helpful to know how often to check it and what your baseline blood pressure is.
- If you don't have high blood pressure you can still monitor it at home as part of a 'lifestyle checker'. In this case you would only need to check it once a week, at the same time each week.

Buying a monitor

- Home monitor devices are not available on the NHS so you will have to buy your own. They vary in price so shop around before you buy.
- When choosing a device ask your pharmacist for advice or contact the Blood Pressure Association (see 'Useful addresses and websites' section).
- Machines that measure your blood pressure on your upper arm tend to be more reliable than wrist monitors.
- Make sure you buy a monitor with the correct cuff size for your arm.



Using your monitor

- Follow the general advice for getting an accurate reading (see p14). Avoid taking your blood pressure if you are upset, feeling stressed, have had a very busy day, have just been exercising or have recently had a cigarette.
- Follow the advice from your doctor / nurse as to how often you should monitor your blood pressure. It is good to take readings at the same time each day.
- Keep a note of your results. See the table towards the end of this booklet (Appendix 1).
- Remember your readings may be lower at home than at the clinic. Look at the general trend of your blood pressure. Don't directly compare figures taken at home to those at the clinic.
- Don't round measurements up or down.
- Try not to worry if you get an unexpected high reading. It is normal for your blood pressure to fluctuate. Continue to monitor your blood pressure and if it continues to be high, or you feel unwell, contact your doctor or nurse.
- Keep your monitor calibrated. To ensure accurate readings most automatic monitors need to be re-calibrated. Follow the manufacturer's instructions as to how often this is needed (usually at least every 2 years) and where to send your monitor.
- Don't measure your blood pressure too often. Your monitor is meant to help you feel in control of your blood pressure care; it is not meant to add to your stress levels.

AMBULATORY MONITORING

Ambulatory monitoring involves wearing a device that automatically takes your blood pressure, at intervals over a 24-hour period, as you go about your daily activities. The device is fitted by a doctor or nurse at your clinic / hospital.

Normally you will have your blood pressure monitored at 15 - 30 minute intervals during the day and 30 - 60 minute intervals at night. These measurements can be used to work out your average day and night-time readings and so establish more accurately if your blood pressure is raised for long periods.

For some people the ambulatory method can be more helpful than home or clinic measurements as it provides a full 24-hour profile.

MAKING CHANGES

If you have high blood pressure you need to look at the way you lead your life and do what you can to reduce your blood pressure.

You can learn to take control of your high blood pressure and not let it control you. This involves making some changes to your lifestyle as well as controlling your cardiovascular (CV) risk factors.

Small changes can have a direct affect on your blood pressure, significantly reducing high blood pressure in some people (see Table 1). Controlling your CV risk factors can help to minimise damage to your blood vessels and reduce your overall risk of heart disease and stroke.

See the CHSS booklets 'Reducing the risk of heart disease' and 'Reducing the risk of stroke' for more information.

Effective lifestyle modification may lower blood pressure as much as a single blood pressure lowering drug. Combinations of two or more lifestyle modifications can achieve even better results.

WHAT ARE THE THINGS I CAN CHANGE?

Stop smoking: nicotine raises your blood pressure for up to an hour after you smoke. Smoking throughout the day means your blood pressure may remain constantly high.

Control your weight: losing weight will help to lower your blood pressure.

Eat a healthy diet: reduce the saturated fat in your diet and increase the amount of fruit and vegetables.

Reduce the salt in your diet: reducing a high salt intake can sometimes help to lower your blood pressure.

Keep active: exercising regularly can bring your blood pressure down by as much as many blood pressure lowering drugs.

Moderate your alcohol intake: cutting down on your alcohol intake can bring your blood pressure under control.

Control diabetes and cholesterol levels: to minimise damage to your blood vessels it is especially important to monitor and control diabetes and high cholesterol levels if you also have high blood pressure.

Reduce stress: stress increases your blood pressure for short periods of time.

Avoid recreational drugs: cocaine causes your arteries to constrict, raising your blood pressure and reducing the blood supply to your heart.



WHAT ARE THE BENEFITS OF LIFESTYLE CHANGES?

Addressing all of these lifestyle measures at the same time will have the biggest effect on your blood pressure and can reduce the need for drug treatment in some people. If you do need drugs to control your blood pressure then you should try to make and maintain these lifestyle changes as they can enhance the effect of your blood pressure lowering drugs.

According to British Hypertension Society (BHS) guidelines, lifestyle interventions for blood pressure reduction can achieve the following:

Table 1: Possible reductions in blood pressure

Intervention	Recommendation	Expected systolic blood pressure reduction
Weight reduction	Maintain ideal body mass index (BMI) 20-25	5-10mmHg per 10kg weight loss
DASH eating plan*	Increase fruit and vegetables, low fat dairy products with reduced saturated and total fat	8-14mmHg
Salt reduction	Reduce to 6g salt (2.4g sodium)	2-8mmHg
Physical activity	Regular moderate physical activity for at least 30 minutes most days	4-9mmHg
Alcohol moderation	Men \leq 21 units per week Women \leq 14 units per week	2-4mmHg

* DASH stands for Dietary Approach to Stopping Hypertension – an eating plan (created by American scientists) which is low in saturated fat, cholesterol, and total fat. It also promotes fruits, vegetables, and fat-free or low-fat milk / milk products.

STOP SMOKING

- Smoking increases your blood pressure and speeds up your heart rate.
- Smoking makes the smooth lining of your blood vessels rough. This encourages the build up of atheroma, the fatty material that narrows and blocks your blood vessels.
- Smoking increases the chance of blood clots forming. These blood clots can cause heart attacks and strokes.



If you smoke, you are much more likely to develop life-threatening conditions such as heart disease, stroke, cancer, circulation problems and chronic lung problems. The risk of cardiovascular disease increases substantially when smoking is combined with high blood pressure.

Stopping smoking may not be easy. To begin with it can help to work out why you smoke and how you could benefit from giving up.

There are all sorts of reasons why you may smoke (apart from the addiction to nicotine) even though you know it is doing you harm. Benefits or reasons to stop could include freedom from an addictive habit, poor health, smelly breath and being a bad role model for children.

Once you have made the decision to stop, try to get as much support as you can to keep you motivated.

How can I find out how to stop smoking?

If you find it very difficult to give up you may benefit from some professional help. Most areas run free local stop smoking services which can include:

- group support
- one-to-one support
- support from your local pharmacy or GP practice

In addition, there are drug treatments available which can help you to stop smoking. Most drugs will need to be prescribed by your doctor and work best when combined with professional support.

To find out what information and support is available in your area contact:

- Smokeline Scotland: call free on 0800 84 84 84 (12 noon to midnight)
- ‘Can Stop Smoking’ website: www.canstopsmoking.com

Will nicotine patches affect my blood pressure?

Yes. Nicotine, in any form, raises your blood pressure. However, the level of nicotine in the patches is less than in a cigarette.

If you want to use nicotine patches, gum or nasal sprays it is advisable to check with your doctor or pharmacist first.



CONTROL YOUR WEIGHT

Being overweight can be one of the main causes of high blood pressure. Losing weight (and maintaining a healthy weight) can help to lower your blood pressure as well as reduce your overall risk of heart disease and stroke.

There are two accurate ways of assessing if you are overweight; both are recognised as helping to identify weight as a risk factor.

- Body Mass Index (BMI)
- Measurement of waist size / circumference

Body Mass Index (BMI)

Your Body Mass Index (BMI) is measurement of your body fat based on your height and weight.

BMI is expressed as a number which is calculated by dividing your weight (in kilograms) by your height (in metres squared: m²). This is done for you on some weight charts.



$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m}^2\text{)}}$$

There are various websites that can calculate your BMI for you, e.g. www.nhs.uk (search for 'BMI').

There is a weight chart at the end of this booklet (Appendix 2).

What does your BMI mean?

In the UK the following levels apply:

Table 2: Classification of BMI measurements

Less than 18.5	You are underweight
18.5-25	You are an ideal weight for your height
25-30	You are overweight for your height
30-40	You are obese
Over 40	You are very obese

Your BMI is a less accurate indicator of risk if you are an athlete or very muscular. This is because the weight of your muscles may put you in a higher BMI category even if you have a healthy level of body fat.

Your BMI is a ratio of your weight in relation to your height. It is not a direct measurement of body fat, and therefore does not tell you about the distribution of your body fat.



Waist measurement

The measurement of your waist size (circumference) is increasingly being regarded as a more accurate indicator of risk than your BMI. It provides information about where your body fat is stored. If you carry extra weight around your stomach (‘central obesity’) you are at increased risk of heart disease and stroke.

Table 3: Classification of waist measurements

	Waist measurement		Category
Men	37 – 40 inches	92.5 – 100 cms	Overweight
	>40 inches	>100 cms	Obese
Women	32 – 35 inches	80 – 87.5 cms	Overweight
	>35 inches	>87.5 cms	Obese



What is the best way of losing weight?

You gain weight when you take in more calories from food than you use up (calories are a measure of energy). When this is balanced your weight remains stable. So, to lose weight you have to eat fewer calories and use up more energy, i.e. by being more physically active.



If you combine increased physical activity, moderate alcohol intake and reduced salt intake along with your reduced calorie eating plan you will lose weight and achieve the best blood pressure lowering effect.

How quickly should I expect to lose weight?

The most effective way to lose weight is slowly. You should expect to lose 2lb (approximately 1kg) in the first week and about 1lb each week after that.

If you lose weight too quickly you will be far more likely to put weight back on again.

You are also more likely to be successful if you lose weight with other people, e.g. if you join a slimming club. You can attend weekly classes or gain support online.

EAT A HEALTHY VARIED DIET

The main diet recommendations are:

- Eat at least 5 portions of fruit and vegetables each day.
- Reduce the fat in your diet: replace saturated fats with unsaturated fats / oils.
- Reduce your salt intake.

You may notice the best reductions in your blood pressure if you combine all of these recommendations into your diet.

Fruit and vegetables

Evidence has shown that an increase in fruit and vegetables in your diet can lower your blood pressure. The mechanism for how this works is not yet fully understood.

Try to eat at least 5 portions of fruit and vegetables every day.



Here are some tips to help you work out what a ‘portion’ is:

- One portion could be a banana, two plums, a couple of broccoli florets, one carrot, a handful of strawberries or two tablespoons of peas.
- All dried, canned and frozen fruit and vegetables count towards your daily portions.
- Fruit juice counts as a portion once a day.
- Beans and pulses count as a portion once a day.
- Potatoes do not count as they are carbohydrates.

Eating at least 5 portions of fruit and vegetables every day may seem a lot at first. Try to get into the habit of eating some fruit and / or vegetables with each meal.

Here is an example of how you could spread your portions throughout the day:

Table 4: A suggested daily meal plan

Breakfast	• Breakfast cereal with a couple of spoonfuls of dried fruit added.	1
	• Glass of orange juice.	1
Lunch	• Sandwich of your choice with a grated carrot or sliced tomato or salad.	1
	• Smoothie drink made from fresh fruit.	1
Snack	• An apple or a banana.	1
Main meal	• Broccoli florets and a spoonful of carrots as part of your meal.	2
	• Serving of strawberries and yoghurt or ice cream.	1
TOTAL		8



Some food labels shows how many portions of fruit and vegetables are in foods such as ready meals. However, remember to read the labels carefully for fat, salt and total calories.

Reduce your fat intake

The aim is to reduce the saturated fat in your diet and replace it with unsaturated fat.

Saturated fat is usually solid when cold (e.g. butter, lard, fat on meat). Unsaturated fat is liquid at room temperature (e.g. most oils).

Saturated fat is found in things like red meat and in full-fat dairy products such as butter and cream. It is also used in: processed foods, ready meals and snacks that have been fried.

Excess saturated fat in your diet increases your blood cholesterol. When your cholesterol level is high it contributes to the fatty build-up in the lining of your blood vessels, called atheroma, which contributes to the risk of heart disease and strokes.

See the CHSS factsheet 'Cholesterol' for more information.

Saturated fat is also very high in calories. Reducing your intake of saturated fat can help to control your weight.

Ways to help you reduce the amount of saturated fat in your diet include:

- choosing low-fat varieties of cheese (e.g. cottage cheese) as the harder the cheese, the higher the fat content
- switching from butter to reduced-fat spreads
- switching from full-fat milk to semi-skimmed or skimmed milk
- choosing low-fat varieties of yoghurt and fromage frais
- choosing unsaturated oils (such as rapeseed, sunflower or olive oil) rather than vegetable oil: remember being 'oily' is not necessarily bad for you
- replacing meat with fish, especially oily fish, e.g. mackerel, herring, sardines, trout, salmon or pilchards
- eating fewer meat products such as pies, pasties, sausage rolls, hamburgers and sausages
- trimming all visible fat from meat before cooking and discarding any fat that comes out of food during cooking
- grilling instead of frying
- avoiding pastry as it is high in fat
- replacing snacks such as crisps, cakes and biscuits with fruit



Fat content: food labels may list ‘fat content’ and / or ‘of which saturates.’

Table 5: Fat content per 100g

Fat content per 100g	
Low fat content	3g fat or less
Low saturated fat	1g saturated fat or less
High fat content	20g fat or more
High saturated fat	5g saturated fat or more



Check the food labels!

If you get into the habit of checking the labels on the food that you buy you will become more aware of what it is that you are actually eating.

Many supermarkets and brands are now labelling food more clearly to make these choices easier but labelling can still be confusing. Traffic light systems on labelling can also be helpful in making the best choices, basically green for go and red for stop.

Read the labels carefully; look for amounts ‘per 100g’ and ‘per serving’. Remember that the amount you eat of a particular food (serving size) affects the total amount of fat, sugar, salt etc you will get from it. Your serving size may be different to what’s recommended on the label!

Be wary of products such as ‘low-fat’, ‘low-salt’ etc. Take time to actually read the exact contents and compare with similar options.

See the CHSS factsheet ‘Healthy eating’ for more information.

REDUCE YOUR SALT INTAKE

It is the sodium content in salt that can affect your blood pressure. Sodium has an effect on your kidneys, a pair of organs in your body that help to regulate your blood pressure. If you usually eat a lot of salt and you reduce this substantially you can reduce your blood pressure by 2-8 mmHg. If you combine this with other healthy lifestyle interventions then you can reduce your blood pressure even more.

Salt content on food labels this can be listed as salt or as sodium. The amounts are not the same. You can multiply the amount of sodium by 2.5 to see how much salt is in the food: 1g of sodium (per 100g) is 2.5g of salt (per 100g). Read the labels on foods and look for low-salt varieties.



Table 6: Salt content per 100g

Salt content per 100g		
Virtually salt free	0.005g sodium or less	0.0125g salt or less
Low salt	0.1g sodium or less	0.25g salt or less
Medium salt	0.2 - 0.4g sodium	0.5 - 1g salt
High salt	0.5g sodium or more	1.25g salt or more

What is the recommended salt intake?

It is generally accepted that you should try and reduce your total salt intake to less than 6g of salt a day (this is the same as 2.4 g of sodium), the equivalent of one level teaspoon.

How do I cut down my salt intake?

You can easily cut down on the amount of salt you add to your food by not using it in cooking and only adding it at the table to taste. In time you will adjust your taste to do without it altogether especially if you use other seasoning such as garlic, pepper, herbs and spices.

Hidden salt

Be aware that processed foods such as bread, meat products, vegetables, soups, sauces and ready meals may contain a lot of salt. There are many foods that you would not expect to be high in sodium such as bread and breakfast cereals. Take-away meals are also high in sodium in the form of monosodium glutamate and soy sauce.

Can I use a low sodium salt instead?

Even low-salt substitutes have some sodium in them. Some salt substitutes replace some of the sodium with potassium, which can cause its own problems if you take too much. It is much better to allow your taste to adjust to less salt and more flavour.

See the CHSS factsheet 'Salt' for more information.

KEEP ACTIVE

Most people know that regular physical activity (exercise) is good for you. One of the benefits is that it can help to reduce your blood pressure. By keeping active you can bring down your blood pressure by 4-9mmHg. Keeping active can also help you to control your weight, especially if combined with a healthy eating plan.

What sort of activity is best?

If you have high blood pressure you should be doing exercise which keeps you moving (dynamic) and makes you breathe in more air (aerobic), e.g. walking, swimming, cycling, dancing, and jogging. The aim is to do some form of aerobic activity for 30 minutes most days of the week.

What sort of exercise should I avoid?

If you have high blood pressure, you should avoid any form of exercise that involves staying in one place and straining to lift, or move, something, e.g. weight lifting. This is called static exercise. It strains your heart and will raise your blood pressure.

Even if your high blood pressure is controlled by drugs you should talk to your doctor before taking part in any 'extreme' sports (e.g. skydiving, parachuting, scuba diving, motor racing) as they can have an affect on your blood pressure.

If you are advised that you can still take part in extreme sports then you are likely to need a medical certificate to say you are fit to



do so. You may also need to take out an insurance policy which would cover your high blood pressure. Each of these sports has a governing body which can provide you with more information.

If you are unsure whether your sport is safe or classed as ‘extreme’ then talk to your doctor.

How do I start?

Before you begin any new kind of exercise it is advisable to ask your doctor how much and what kind of exercise would be suitable for you. If your blood pressure is very high, or is poorly controlled, your doctor may suggest that you begin taking blood pressure lowering drugs before you start any new physical activity.

It is important to build up your activity levels gradually. The best way to start is to be more active, more often. This is something you can build into your daily routine without making a special effort.

***Build up
your exercise
gradually.***



- Get up and do something during the adverts when watching television.
- Use the stairs instead of the lifts and escalators.
- Walk instead of taking the bus or get off a few stops early.
- Play with the kids outside.
- Go for walks - try not to sit for long periods.

Joining a club or exercise class can help to keep you motivated. If you chose an activity that you enjoy you are more likely to keep exercising.

- Start off with shorter periods of approximately 10 minutes at a time and gradually increase the time spent and the number of times a week you do it.
- Once you are used to doing an activity every day you can make it more strenuous or spend longer doing it, e.g. walk or swim faster in the same amount of time.
- Don't push yourself too hard at the beginning. Slow down or stop if it is painful! Learn to listen to your body.
- Exercise should make you puff and pant a little but you should be able to continue a conversation.

See the CHSS factsheet 'Just move' for more information.



MODERATE YOUR ALCOHOL INTAKE

Drinking heavily on a regular basis:

- increases your blood pressure
- affects your cholesterol level
- can make you gain weight

Drinking large amounts of alcohol over a short period of time (i.e. binge drinking) at any age can cause a temporary but significant rise in blood pressure and an increased risk of stroke.

What is the recommended limit?

The recommended daily limit for adults is measured in units. If you have high blood pressure you should limit your alcohol intake to the lower recommended limits (see Table 7). Drinking above these levels is associated with raising blood pressure.

You should also aim to have a minimum of 2 alcohol-free days per week.

Drinking large quantities of alcohol is a common cause of sustained high blood pressure especially in young males.



Table 7: Recommended maximum alcohol intake if you have high blood pressure

Recommended maximum alcohol intake if you have high blood pressure		
	per day	per week
Men	3 units	21 units
Women	2 units	14 units

What is a unit of alcohol?

In the UK a unit of alcohol is equivalent to 8g or 10mls of pure alcohol. The strength of alcohol is measured by the percentage of alcohol by volume (% ABV).

For example:

- There is 1 unit of alcohol in a single measure (25mls) of spirit of 37.5% vol
- There are 1.5 units of alcohol in one small glass (125mls) wine or champagne of 12% vol
- There is 1 unit of alcohol in half a pint of standard strength (3.5% vol) beer or lager

Some people still think that 1 drink = 1 unit. This is not true! Remember it is the strength and size of a drink that determines how many units it contains. You have to read the label to be accurate. Home measures are often more generous than those in a pub or restaurant. For example, a large 440ml bottle / can of strong beer (6.5%) has 3 units of alcohol in it.

If you have a calculator handy you can work out how many units you are having in each drink: Multiply the amount of fluid in mls by the % ABV and divide the result by 1000!

CONTROL DIABETES AND HIGH CHOLESTEROL

It is important to monitor and control diabetes and high cholesterol levels to reduce your risk of heart disease and stroke especially if you also have high blood pressure.

See the CHSS booklets 'Reducing the risk of heart disease' and 'Reducing the risk of stroke' for more information.

REDUCE STRESS

Stress is an inevitable part of everyday life and we all need a degree of stress in order to make us perform well.



Stress increases your blood pressure for short periods of time. Once the stress is relieved your blood pressure returns to normal. Stress itself has not been proven to actually cause high blood pressure. Prolonged stress, however, can become a trigger for unhelpful behaviours (e.g. smoking, drinking too much alcohol, eating poorly and not getting enough physical activity) which can all contribute to high blood pressure.

In order to make the necessary lifestyle changes to lower your blood pressure you need to be well motivated, learn to reduce and control the amount of stress in your life and to recognise if you are down or possibly depressed. Speak to your doctor if you think you might need some help.

See the CHSS factsheet 'Living with stress and anxiety' for more information.

AVOID RECREATIONAL DRUGS

Some recreational drugs (e.g. cocaine, amphetamines (speed) and ecstasy) can cause your blood pressure to rise.

Cocaine causes your coronary arteries to constrict, raising your blood pressure and reducing the blood supply to your heart. During the first hour after cocaine use, the risk of a heart attack increases by nearly 24 times.

The risk of heart disease amongst cocaine users is compounded by other risk factors including smoking and drinking excess alcohol; the combination of all 3 can be a lethal cocktail.

DRUG TREATMENT FOR HIGH BLOOD PRESSURE



WILL I NEED TO START TREATMENT STRAIGHTAWAY?

When you start treatment with blood pressure lowering drugs will depend upon your individual situation. Sometimes your doctor may suggest that you start drug treatment straight away. In other situations he / she may want to see what effect lifestyle changes may have on your blood pressure before starting drug treatment.

- In general, if you have a sustained blood pressure of 160/100mmHg or above this indicates the need to consider drug treatment.
- If you have cardiovascular disease (heart disease or stroke) and you have a sustained systolic blood pressure greater than 140mmHg and / or diastolic blood pressure greater than 90mmHg you should be considered for drug treatment.
- If you have a 10-year CVD risk of 20% or greater and have a sustained systolic blood pressure greater than 140mmHg and / or diastolic blood pressure greater than 90mmHg you should be considered for drug treatment.
- If you have cardiovascular disease **and** chronic kidney disease or diabetes you may be considered for treatment if your systolic blood pressure is greater than 130mmHg and / or diastolic blood pressure is greater than 80mmHg. These figures also apply if high blood pressure has caused other damage throughout your body.
- If your blood pressure is higher than 180/110mmHg and there are signs of increased pressure in your eyes then you may be referred to a specialist.

WHAT ARE THE AIMS OF DRUG TREATMENT?

The aim of drug treatment is to try and get control of high blood pressure and get it as close to the target range as possible.

- This is currently 140/90mmHg or less.
- If you have diabetes the lower target range of 130/80mmHg is used.

Once you reach the target range it is likely you will have to continue taking drugs.

If you stop taking them, your blood pressure may quickly rise again.

Sometimes it is not possible to reach the target range even with treatment. However, any reduction in high blood pressure helps to reduce your risk of heart disease and stroke.

HOW DO BLOOD PRESSURE LOWERING DRUGS WORK?

There are various groups of drugs that are used to treat high blood pressure; each works in a different way.

Generally, they work by manipulating your body's own mechanisms for controlling the blood flow to the different organs in your body. The end result is that they widen your blood vessels and / or reduce the work of your heart.

More specifically, they work on your brain, kidneys, heart or arteries, all of which are involved in regulating your blood pressure.

It is essential to try making some lifestyle changes and to maintain these changes even if you have to take drugs to lower your blood pressure.

COMMONLY USED BLOOD PRESSURE LOWERING DRUGS

To reduce your blood pressure to within the target range it is very common to need a combination of different types of blood pressure lowering drugs. As each group works in a different way, taking a combination of drugs can often be the best way to target all the organs involved in controlling your blood pressure.

Your treatment may involve a combination of two, or more, of the following groups of drugs to lower your blood pressure:

- ACE inhibitors (Angiotensin Converting Enzyme inhibitors)
- ARBs (Angiotensin II Receptor Blockers)
- Calcium channel blockers
- Thiazide diuretics ('water' tablets)
- Alpha blockers
- Beta blockers

The following drugs may also be prescribed to help reduce the risk of further problems with your health:

- Antiplatelets ('blood thinners')
- Statins

COMBINATION THERAPY

One of the benefits of taking a combination of blood pressure lowering drugs is that you are likely to need lower doses of each drug and will have fewer side effects.

Never stop or alter your drugs without consulting your doctor – this can be dangerous.

The British Hypertension Society (BHS) have worked with the National Institute for Health and Clinical Excellence (NICE) to produce guidelines for the management of high blood pressure. Your doctor will suggest the best combination for you based on these guidelines. This will depend on your individual situation (particularly your age and ethnic origin) and how well your blood pressure responds to treatment.

Your doctor and / or nurse may go through a number of well-recognised steps before finding the best drug combination for you (see Table 8). This is often known as the ‘A / CD’ approach. (Note that if you are black of African or Caribbean descent then you should start treatment with calcium channel blockers or thiazide diuretics regardless of what age you are.)

Table 8: The A / CD approach for people with newly diagnosed hypertension.

	Younger than 55 years old	55 years old and older OR people of African* or Caribbean origin
STEP 1	A	C or D
STEP 2	A + C or A + D	A + C or A + D
STEP 3	A + C + D	A + C + D
STEP 4	Add: <ul style="list-style-type: none"> • further diuretic or • alpha blocker or • beta blocker Consider seeking specialist advice	Add: <ul style="list-style-type: none"> • further diuretic or • alpha blocker or • beta blocker Consider seeking specialist advice

Key:

A = ACE inhibitor (or ARB) C = calcium channel blocker D = thiazide diuretic

* (Black African or Caribbean descent and **not** mixed race, Asian or Chinese patients)

Table 9: Blood pressure lowering drugs and their side effects.

DRUGS TO LOWER BLOOD PRESSURE

Drug group names and examples	How they work / action	Possible common side effects
<p>ACE inhibitors (Angiotensin Converting Enzyme inhibitors)</p> <ul style="list-style-type: none"> • lisinopril • enalapril • ramipril 	<p>Work by reducing production of angiotensin II (a hormone that is important in constricting blood vessels). This reduction causes the blood vessels to relax and so reduces blood pressure.</p>	<p>Persistent cough, dizziness / light-headedness, kidney problems, loss of taste.</p>
<p>ARBs (Angiotensin II Receptor Blockers)</p> <ul style="list-style-type: none"> • candesartan • irbesartan • losartan • valsartan 	<p>Similar effect to ACE inhibitors: work by blocking the effect of angiotensin II on the blood vessel walls.</p>	<p>Dizziness / light headedness, kidney problems, cough / sore throats, headaches, cystitis (urine infections), aches and pains, stuffy nose, tiredness or weakness.</p>
<p>Calcium channel blockers</p> <ul style="list-style-type: none"> • amlodipine • diltiazem • nifedipine • verapamil 	<p>Relax blood vessels to reduce blood pressure and decrease workload of the heart.</p>	<p>Flushing, headaches, dizziness, stuffy nose, nausea, palpitations, slow pulse and ankle swelling.</p>

Additional information	When used
<p>ACE inhibitors are usually started with a small dose and increased gradually to prevent dizziness (owing to blood pressure being lowered). Sometimes taking it at night can help if you have dizziness.</p> <p>Blood tests may be required when taking these drugs.</p>	<p>High blood pressure, coronary artery disease such as after a heart attack / stroke or an unstable angina episode.</p> <p>Particularly useful if you have heart failure or diabetes.</p> <p>Cannot be used in pregnancy.</p>
<p>Avoid salt substitutes.</p>	<p>A good alternative to an ACE inhibitor if ACE is causing a troublesome cough.</p> <p>Cannot be used in pregnancy.</p>
<p>Avoid grapefruit juice with nifedipine and verapamil.</p>	<p>High blood pressure, angina and can be used in place of beta blockers.</p>

Drug group names and examples	How they work / action	
<p>Thiazide diuretics (‘water’ tablets)</p> <ul style="list-style-type: none"> • bendroflumethiazide (Bendrofluazide) • indapamide 	<p>Increase salt and water loss from the kidneys by increasing urine volume (diuretic effect). Also relax blood vessels. This lowers the blood pressure and eases the workload of the heart.</p>	
<p>Alpha blockers</p> <ul style="list-style-type: none"> • doxazosin 	<p>Relax blood vessel walls to reduce blood pressure.</p>	
<p>Beta blockers</p> <ul style="list-style-type: none"> • bisoprolol • atenolol • labetalol 	<p>Reduce blood pressure by lowering the heart rate and easing the workload of the heart.</p>	

Additional information	When used
<p>When used to treat high blood pressure a low dose is used, so you may not notice much diuretic effect.</p>	<p>High blood pressure.</p>
	<p>High blood pressure. May be more suitable for you if you have heart failure, kidney problems or diabetes.</p>
<p>Usually avoided if you have asthma / chest problems unless your BP is very high. Some cough and cold remedies and appetite suppressants can increase your blood pressure if taken with a beta blocker.</p>	<p>Due to side effects, these are no longer considered as routine first treatment for high blood pressure. Can also be used to treat heart failure, angina and after a heart attack.</p>

DRUGS TO REDUCE THE RISK OF HEART DISEASE AND STROKE

Drug group names and examples	How they work / action	Possible common side effects
<p>Antiplatelets ('blood thinners')</p> <ul style="list-style-type: none"> • aspirin <p>Less commonly used:</p> <ul style="list-style-type: none"> • dipyridamol • clopidogrel 	<p>Blood clotting occurs due to special cells, called platelets, sticking together. Antiplatelet drugs make this harder to do. Reduces the risk of developing blood clots.</p>	<p>Stomach irritation, headache, bruising and bleeding.</p>
<p>Statins</p> <ul style="list-style-type: none"> • pravastatin • simvastatin • atorvastatin • rosuvastatin 	<p>Lower LDL (bad cholesterol) and reduce the risk of coronary heart disease.</p>	<p>Nausea, stomach upsets, headache, pins and needles, muscle pains and tiredness / fatigue.</p>

Additional information	When used
<p>Do not take additional drugs containing aspirin.</p> <p>Report black bowel motions to your doctor immediately, as this may indicate bleeding from gut.</p>	<p>As a preventative measure.</p> <p>Used for those at risk of heart disease and strokes.</p>
<p>Avoid grapefruit juice when taking simvastatin.</p>	<p>Prevention of heart attacks and strokes.</p> <p>Not recommended in pregnancy, if you are breastfeeding or if you have liver disease.</p>

All drugs have two names: their scientific (generic) name and their brand name (e.g. simvastatin is the generic name and Zocor® is an example of a brand name). The list of drugs on Table 9 is not exhaustive. If you are not sure which groups your drugs belong to ask your doctor or pharmacist to explain. You can also look at the patient information leaflet that came with your drugs.

Talk to your doctor if you are having problems with troublesome side effects as a change of drug may be needed. Sometimes side effects can wear off so your doctor may ask you to persevere with taking your drugs for a few weeks.

CURRENT USE OF BETA BLOCKERS

Beta blockers used to be used as part of the initial treatment for high blood pressure. However, latest evidence has shown that they should no longer be considered as routine first treatment for high blood pressure. This is because there are other drugs that have fewer side effects (e.g. ACE inhibitors and calcium channel blockers) and are better at reducing your blood pressure as well as reducing your risk of heart attack or stroke.

- If you take beta blockers and they are not controlling your blood pressure your doctor may well consider changing your treatment as shown in Table 8.
- If your blood pressure is well controlled by beta blockers your doctor may still talk to you about changing your treatment at your next routine review.

- For some people beta blockers will still be the drug of choice, for example, younger people, women of child-bearing potential or people who can not tolerate ACE inhibitors.
- Beta blockers will continue to be used in situations where there are other indications for using them such as for people with angina or after a heart attack.
- If a second drug is added to beta blockers it should be a calcium channel blocker rather than a diuretic to reduce the risk of developing diabetes.

Stopping treatment with beta blockers should always be done by gradually reducing the dose. They should never be stopped suddenly or without talking to your doctor.



FREQUENTLY ASKED QUESTIONS ABOUT BLOOD PRESSURE LOWERING TREATMENT

How long will I have to stay on treatment?

Most people will have to have treatment for life.

Some people feel they would really like to try and manage without drug treatment. In this case your doctor may consider a trial reduction or withdrawal of therapy if you have a low cardiovascular risk and your blood pressure is well controlled.

*Stopping your
drugs suddenly
can be harmful.*

How often will I have to take my drugs?

Always take your drugs as prescribed by your doctor.

Some blood pressure lowering drugs need to be taken twice a day, e.g. in the morning and evening. Other drugs need only to be taken once a day. If this is the case you should take them at the same time every day.

If you are starting 2 different blood pressure lowering drugs at the same time, your doctor may ask you to start them separately to see how you respond to each drug. If there are any side effects you will then know which one is the cause.

How should I take slow release tablets?

If your drugs are slow release they will have SR after the name. All slow release drugs are designed to be taken either with your meal or soon after.

Don't crush slow release tablets as they are designed to be absorbed slowly.

Can I drink alcohol if I'm on blood pressure lowering drugs?

Yes, in moderation. However, if your drugs make you feel drowsy then drinking alcohol can make this much worse.

Some people who have difficulty controlling their blood pressure find that cutting down their alcohol intake helps to keep their blood pressure under control.

Drinking large quantities of alcohol is a common cause of sustained high blood pressure in younger males.

What about alternative remedies?

Some herbal and natural remedies can actually raise blood pressure or interfere with the action of conventional drugs. Always talk to your doctor, or pharmacist, before taking any alternative remedies. Do not stop taking your prescribed blood pressure lowering drugs.



Always read any instructions about taking your drugs carefully.

Your pharmacist will tell you any special instructions when you start a new drug. An information leaflet is usually provided with your drugs providing more information about the drug itself.

Never stop or alter your dose without consulting your doctor – this can be dangerous.

There is no reason why you can not live a perfectly normal and active life while being on treatment.

LIVING WITH HIGH BLOOD PRESSURE

If you have been told that you have high blood pressure there may be lots of thoughts and questions going through your mind and you may wonder what the future is going to be like.

Remember that high blood pressure is not a disease in itself. For most people, making the necessary lifestyle changes as well as taking any drugs that have been prescribed means that you can lead a normal active life.

DRIVING

If any of the drugs you are taking give you side effects which may affect your driving (e.g. drowsiness) then you are not allowed to drive.

- Group 1 Licence Holders (Motorcars and Motorcycles): you only have to stop driving if your drugs give you side effects such as drowsiness or dizziness. DVLA need not be notified.
- Group 2 Licence Holders (Lorries and Buses): you will not be allowed to drive if your resting blood pressure is consistently 180mmHg (systolic) or more and / or 100mmHg (diastolic) or more. The DVLA and your insurance company must be notified. Re-licensing may be permitted when your blood pressure is controlled.

For more information contact the Driver and Vehicle Licensing Agency (DVLA): see 'Useful addresses and websites' section for details.



WORK

If your blood pressure is well controlled then you should be able to continue working.

However, there are certain jobs that you may not be able to do if you have high blood pressure, or you may have to restrict your duties:

- If you work as a diver, submariner or airline pilot then it is unlikely that you will be able to continue working. This is because extreme changes in speed and / or pressure can sometimes cause problems if you have high blood pressure.
- If you work with machinery you must tell your doctor, before any treatment is prescribed, as some drugs can make you drowsy.

It is important that you are honest with your employer. Sometimes they may require you to undergo a medical examination to fulfil conditions for pension funds and insurance purposes. Unfortunately, if you choose not to disclose any type of information which is relevant for your job, you can legally be dismissed.

If you decide that the physical requirements of your job are too much for you, it may be necessary to retrain or find alternative duties at your workplace. If your work has an occupational health department, they can be a useful source of support and information.



SEX

You may worry about how sex will affect your blood pressure, or if it is safe to have sex at all. These fears are natural so it can be reassuring to know that sex, like any exercise, raises your blood pressure but only briefly. Your blood pressure falls immediately afterwards. This temporary increase in blood pressure is normal and safe.



Sex should be thought of as another form of physical activity, no more stressful to the heart than other forms of moderate exercise.

Sometimes high blood pressure, and blood pressure lowering drugs, can cause problems with sex.

- Some men may have problems with impotence. Some of the physical causes of impotence include high blood pressure and heart disease. Sustained high blood pressure can affect the blood vessels in the penis, making it more difficult to have an erection.
- Impotence can also occur as a side effect of blood pressure lowering drugs, in particular thiazide diuretics and beta blockers. Impotence that is caused by drugs is always reversible.
- High blood pressure can reduce blood flow to the vagina. Women may occasionally find that sex is painful or that they are less likely to have an orgasm.
- High blood pressure itself does not cause loss of libido (sexual desire). However, if you are worried about your health you may find that you do not want to have sex. Try to talk to your partner about how you are feeling; it's

easy to feel rejected when sexual intimacy changes. Retaining closeness and intimacy within your relationship will help to overcome difficulties. Remember that you can express your feelings in many different ways, for example through talking, with body language and physical contact such as kissing and cuddling.

- Very rarely heart attacks and strokes can occur during sexual activity. This is relatively rare in comparison with other activities which raise your blood pressure for similar lengths of time.

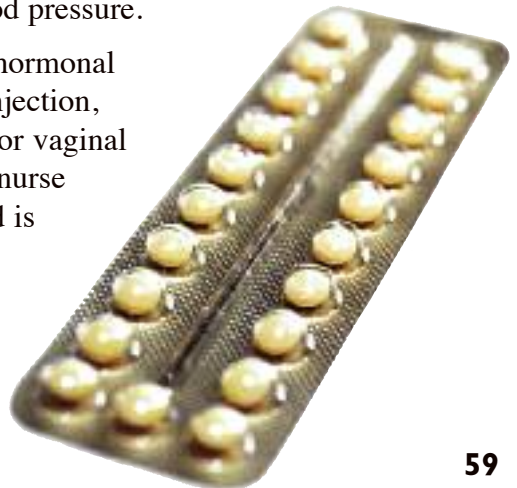
Even though you may find it embarrassing, talk to your doctor if you are having problems with sex. If you think that your problems started after you began your treatment your doctor can try you on a different drug.

Do not buy or use drugs such as Viagra© unless your doctor has prescribed it for you.

FEMALE CONTRACEPTION

Some forms of hormonal contraception are not recommended if you have high blood pressure.

Before you start using any form of hormonal contraception (e.g. the pill, patch, injection, implant, 'coil'/ intra-uterine device or vaginal ring) your doctor / family planning nurse will talk to you about which method is best for you.



- ‘Combined’ contraceptives (e.g. the ‘pill’, patches, vaginal rings) all contain 2 hormones: oestrogen and progestogen. These can all cause a small rise in your blood pressure and your doctor / family planning nurse may not recommend these methods if you have high blood pressure. Combined contraceptives should be **avoided** if you have high blood pressure and you have a family history of heart disease, you are overweight, you smoke or you have diabetes / migraines.
- ‘Progesterone only’ contraceptives (e.g. the ‘mini-pill’, injections, implants and Mirena® ‘coil’) are not known to affect blood pressure; however, you will need to have your blood pressure closely monitored.

If your blood pressure rises while you are taking any form of hormonal contraception you may wish to consider another form of contraception.

HORMONE REPLACEMENT THERAPY (HRT)

Hormone replacement therapy (HRT) can reduce the unpleasant effects of the menopause by increasing your hormone levels (progesterone and / or oestrogen).

HRT is not known to have any effect on your blood pressure as the amount of oestrogen in HRT treatments is very low. However, your doctor may advise that your blood pressure needs to be under control before starting HRT.

HRT is not suitable for everyone. If you are considering it, you must talk to your doctor about the risks and benefits.

HOLIDAYS, FLYING AND INSURANCE

If your blood pressure is well controlled then you should be safe to fly. If your blood pressure is very high, or is poorly controlled, you will need to speak to your doctor before you arrange to fly.

If you have any concerns about your health you need to contact the airline's medical department before travelling. This will allow medical clearance and fitness to fly to be assessed before you travel and allow the airline staff to help you with early boarding and inflight care if required.



Sitting in one position for a long time and becoming dehydrated can cause the blood to thicken, increasing the risk of clots forming. To protect yourself when flying always:

- drink plenty of fluids
- avoid alcohol
- get up regularly for short walks
- make sure you have plenty of leg room
- stretch and move your feet and legs about when sitting
- make sure you have any tablets or treatment you may need in your hand luggage

If you are thinking about going on a holiday at high altitude you should check first with your doctor to see that you are fit enough to go. This is because your blood thickens and your blood pressure rises at high altitude. This may increase your risk of a stroke.

You have to declare if you have high blood pressure when buying travel insurance to ensure that you have the appropriate cover when abroad.

See the CHSS factsheets 'Air travel', 'Holiday information' and 'Sympathetic insurance companies' for more information.

Things to remember

- High blood pressure does not get better or just go away.
- High blood pressure rarely has any symptoms.
- Without treatment many organs are at risk of permanent damage.
- Lifestyle changes will **always** need to be maintained and can prevent the need for drug treatment.
- Drug treatment + lifestyle changes can reduce your blood pressure to within the target range.
- Drug treatment will usually be needed for life.
- Your thorough medical check-up should be repeated every 5 years.
- You will always have to have your blood pressure monitored regularly.

Alcohol Focus Scotland

166 Buchanan Street

Glasgow

G1 2LW

Tel: 0141 572 6700

Fax: 0141 333 1606

Email: enquiries@alcohol-focus-scotland.org.uk

Website: www.alcohol-focus-scotland.org.uk

Alcohol Focus Scotland is committed to improving the quality of people's lives by changing Scotland's drinking culture – promoting responsible drinking behaviour and discouraging drinking to excess.

Blood Pressure Association

60 Cranmer Terrace

London

SW17 0QS

Blood Pressure Information Line

Tel: 0845 241 0989

Line open 11am to 3pm Monday to Friday.

Email information service through website.

Website: www.bpassoc.org.uk

The Blood Pressure Association is the UK-wide charity dedicated to lowering the nation's blood pressure. Their aim is to prevent unnecessary death and disability from heart disease, heart attacks and stroke caused by high blood pressure.

Free online membership and a full subscription membership available.

**USEFUL
ADDRESSES
AND WEBSITES**

British Heart Foundation

British Heart Foundation
Greater London House
180 Hampstead Road
London
NW1 7AW

Tel: 020 7554 0000

Heart Information Line: 0300 330 3311 (local
rate call, open 9am to 6pm Monday to Friday)

Website: www.bhf.org.uk

The British Heart Foundation provides free, confidential information, help and support on all heart health issues. They invest in pioneering research and support and care for heart patients.

CASH (Consensus Action on Salt and Health)

Wolfson Institute of Preventive Medicine
Queen Mary University of London
EC1M 6BQ

Tel: 020 7882 5941

Email: cash@qmul.ac.uk

Website: www.actiononsalt.org.uk

Information and news on all aspects of salt and health.

Chest Heart & Stroke Scotland

Rosebery House
9 Haymarket Terrace
Edinburgh EH12 5EZ

Tel: 0131 225 6963

Fax: 0131 220 6313

Advice Line: 0845 077 6000

Email: adviceline@chss.org.uk

Website: www.chss.org.uk

CHSS aims to improve the quality of life for people in Scotland affected by chest, heart and stroke illness, through medical research, advice and information, and support in the community.

www.canstopsmoking.com

Website run by NHS Health Scotland to help you find the support you need to stop smoking.

Diabetes UK Scotland

The Venlaw
349 Bath Street
Glasgow
G2 4AA

Tel: 0141 245 6380

Fax: 0141 248 2107

Careline Scotland: 0845 120 2960

Email scotland@diabetes.org.uk

Website: www.diabetes.org.uk

Diabetes UK Scotland is dedicated to putting the interests of people with diabetes first, through the best in campaigning, research and care.

Drinkline

Helpline: 0800 917 8282

(9am to 11pm Monday to Friday)

Drinkline offers free, confidential advice and support, information and self help materials.

Drinkaware

Samuel House
6 St Albans St
London
SW1Y 4SQ

Tel: 020 7766 9900

Fax: 020 7504 8217

Website: www.drinkaware.co.uk

Drinkaware provides consumers with the facts about alcohol to make informed decisions about the effects of alcohol on their lives and lifestyles. Provides access to an online unit calculator.

DVLA

Drivers Medical Group

DVLA

Swansea

SA99 1TU

For car or motorcycle driving licence holders

Tel: 0300 790 6806

For bus, coach or lorry driving licence holders

Tel: 0300 790 6807

To find out if you need to tell DVLA about a medical condition:

www.direct.gov.uk/DrivingAndMedicalConditions

Heart UK

7 North Road
Maidenhead
SL6 1PE

Helpline: 0845 450 5988 (10am –to 4pm
Tuesday and Thursday)
Email: ask@heartuk.org.uk
Website: www.heartuk.org.uk

HEART UK is a national charity for patients and their families which combines the rich skills of research scientists and the caring and knowledgeable attention of doctors, nurses and dietitians, in order to support all those at risk of inherited high cholesterol and cardiovascular disease.

NHS 24

Tel: 08454 24 24 24
Textphone: 18001 08454 24 24 24
Website: nhs24.com

This phone service is designed to help you get the right help from the right people at the right time. The service is now running throughout Scotland and works in conjunction with general practitioners, accident and emergency, ambulance and community pharmacy services.

The website provides comprehensive up-to-date health information and self care advice for people in Scotland.

Sexual Dysfunction Association (SDA)

Suite 301, Emblem House,
London Bridge Hospital
27 Tooley Street
London
SE1 2PR

Helpline: 0207 486 7262 (9am to 5pm Monday,
Wednesday, Friday)

Email: info@sexualadviceassociation.co.uk

Website: www.sda.uk.net

The SDA is committed to helping and supporting people, and partners of people, with all forms of sexual dysfunction by raising awareness and providing information and education on male and female sexual problems.

Smokeline

Tel: 0800 84 84 84

Smokeline offers initial and ongoing telephone support and encouragement to callers wishing to stop smoking or who have recently stopped and want to stay stopped.

Smokeline also provides a free copy of their helpful guide to stopping smoking.

Take Life on One Step at a Time

Website: <http://www.takelifeon.co.uk/>

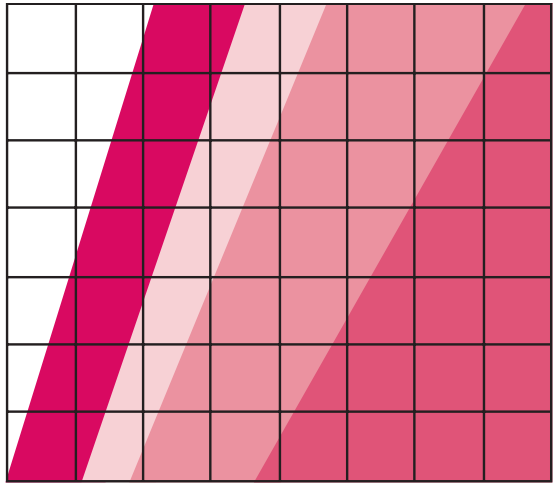
Take Life On is a campaign run by the Scottish government initiative Healthier Scotland. It aims to promote everyday changes to diet and lifestyle which can provide significant health benefits and will help to reduce the risk of cancer, heart disease and diabetes, and can make you feel really good about yourself.

APPENDIX 2: WEIGHT CHART

WEIGHT CHART

- You are underweight and could do with a few extra pounds
- This is the ideal weight for your height
- You are getting too fat so choose your food carefully
- You are obese and need to lose weight
- You are severely obese and must lose weight

Your height in feet & inches (without shoes)



Your weight in stones (without clothes)

**Phone/Textphone the Chest
Heart & Stroke Advice Line for
confidential, independent advice
from one of our nurses.**



**The line is open
Monday – Friday
9.30 – 4.00**

0845 077 6000

Charged at local call rate.

Out of hours answering machine.

Email: advice@chss.org.uk

Fax: 0131 220 6313

The information contained in this booklet is based on current guidelines and is correct at time of printing. The content is also put out to peer, patient and expert review. If you have any comments about this booklet please contact Lorna McTernan, Health Information Manager, at the address on the facing page.

HEART PUBLICATIONS

Booklets		Factsheets - Free	
H1	Living with Angina	F2	Salt
H2	Reducing the Risk of Heart Disease	F3	Cholesterol
H3	Understanding Heart Disease	F4	Warfarin
H4	Living with High Blood Pressure	F6	Holidays
H5	Living with Heart Failure	F7	Insurance companies
H6	Living with a Pacemaker	F8	Suggested booklist
H7	Heart Attack: A Guide to your Recovery	F13	Air travel for people affected by chest, heart and stroke illness
H8	Understanding Heart Valve Problems	F17	Diabetes: links with heart disease and stroke
H9	Understanding Atrial Fibrillation	F18	Coping with tiredness
H10	Living with an ICD	F19	Managed Clinical Networks and You
Videos and DVDs		F20	Illustrated risk factors (ethnic target)
H5V	Living with Heart Failure Video: £5.00	F21	Illustrated risk factors (general target)
H5D	Living with Heart Failure DVD: £5.00	F22	How to make the most of a visit to your doctor
H7V	Heart Attack: A guide Video: £5.00	F23	Living with stress and anxiety
H7D	Heart Attack: A guide DVD: £5.00	F24	Healthy eating
		F26	Understanding help in the community
		F28	Glossary
		F30	Just move!

A full publication list is available from Head Office.
 Rosebery House, 9 Haymarket Terrace, Edinburgh EH12 5EZ
 Tel: 0131 225 6963

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Open Mon – Fri
www.chss.org.uk

Glasgow

Tel: 0141 633 1666

Fax: 0141 633 5113

103 Clarkston Road
Glasgow G44 3BL
Open Mon – Fri

Inverness

Tel: 01463 713 433

Fax: 01463 713 699

5 Mealmarket Close
Inverness IV1 1HT
Open Mon – Fri

Website: www.chss.org.uk

Chest Heart & Stroke Scotland is an autonomous Scottish Charity. We receive no government funding and rely entirely on public subscription to fulfil our programme of activities.

We need £7 million a year to fulfil our commitment to improving lives for Scottish people. We need your help and your money to help others. You can help by volunteering your time as a fundraiser, VSS volunteer or support your local Regional office. You can send a donation, remember us in your Will, take out a Deed of Covenant or organise a fundraising event.

If you would like to speak to one of our Advice Line nurses, in confidence, phone/minicom Chest Heart & Stroke Scotland Advice Line

**Monday – Friday
9.30am - 4.00pm**

0845 077 6000

Fax us: 0131 220 6313

Email us: advice@chss.org.uk

**Text us: text chss followed by your message to
07766 40 41 42**

Chest Heart & Stroke Scotland and CHSS are operating names of The Chest, Heart & Stroke Association Scotland, a registered Charity No. SC018761

October 2010

**Chest
Heart &
Stroke
Scotland**

