

the magazine of Blood Pressure UK

ISSUE 32 > Winter 2012

**POSITIVE**

# pressure

## BE PREPARED

How we can all be ready to help in an emergency

**WE EXPLAIN HOW  
YOUR BLOOD  
PRESSURE  
MEDICINES WORK**

IDEAS FOR  
A HAPPY &  
HEALTHY  
**NEW YEAR**

**PLUS**

**Clothing that could mean  
fewer trips to the doctor**



**Blood Pressure  
UK**

Helping you to lower your  
blood pressure

**POSITIVE**  
**pressure** is the magazine of UK charity, Blood Pressure UK. We aim to significantly improve the prevention, diagnosis and treatment of high blood pressure in order to prevent death and disability from stroke and heart disease. We are an independent registered charity and rely on donations and grants to carry out our work. All views expressed within the magazine are those of the authors and do not necessarily reflect those of Blood Pressure UK. The information in this magazine is designed to support and supplement your relationship with your doctor, not to replace it.

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## Positive about your blood pressure



# Welcome

From Paul Newman, Chief Executive Officer

Welcome to the winter edition of Positive Pressure magazine.

In this issue we report on another hugely successful Know your Numbers! Week. As always, we urged everyone we could to get a free blood pressure check, and this year we asked them to take their partner with them.

We also chose this year's Know your Numbers! Week as the time to re-launch as Blood Pressure UK. Our new name reflects the nationwide reach we have and correctly positions us alongside other UK health charities, reflecting the important work we do and the people we support.

Winter is well and truly upon us, so we offer some tips to keeping fit and well over the winter months, suggest some resolutions for the New Year and show how feasting over the festive season needn't be a tasteless experience, with advice on how to have a blood pressure-healthy and still absolutely delicious Christmas dinner.

We catch up with our friends at LoSalt, and as always bring you right up to date with the latest research into blood pressure and related issues.

Blood Pressure UK gets lots of enquiries asking how blood pressure medicines actually work, so in this issue we explain how the most commonly prescribed antihypertensives lower and control high blood pressure.

Plus, with defibrillators becoming more and more commonplace in our public spaces, this issue encourages everyone to be able to use one and directs you to an online resource where you can learn how, and we explain how the tallest land mammal is contributing towards cardio-vascular research.

I would like to take this opportunity to confirm that I am leaving Blood Pressure UK in January after two very interesting and fulfilling years. I would like to thank all staff, Members and stakeholders who have made my stay such an enjoyable one. Our new CEO, Katharine Jenner, takes over on 1st January. She is Campaign Director at CASH (Consensus and Action on Salt & Health) and knows this charity very well.

With best wishes,

Paul Newman

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**www.bloodpressureuk.org/Supportingyou**



## Some blood pressure drugs may help slow Alzheimer's disease

**A new study has shown that angiotensin receptor blockers (ARBs), drugs commonly taken to control high blood pressure, appear to reduce the occurrence of brain plaques, the hallmarks of Alzheimer's disease.**

Dr Ihab Hajjar and his team at the University of Southern California Keck School of Medicine studied the brains of deceased patients with hypertension who had been taking various medications to lower their blood pressure.

The researchers found that patients who had been taking ARBs had fewer brain plaques and these results were seen only among those who had been taking ARBs and not among patients taking any other blood pressure medications or those people who had not been treated with any blood pressure drug.

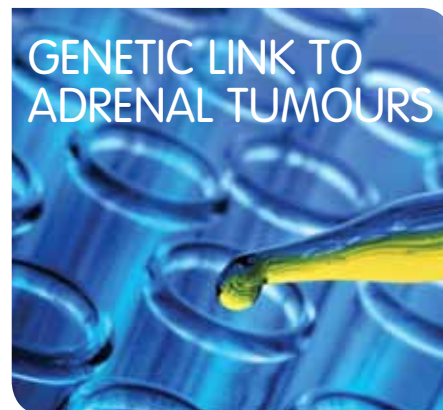
Other studies, one of which was reported in Positive Pressure issue 30, have also suggested a protective effect between ARBs

and dementia.

Hajjar pointed out there is a connection between blood pressure and brain health, and the choice of blood pressure lowering drugs may make a difference in maintaining brain function.

"Uncontrolled hypertension is a recognized risk for Alzheimer's disease and for vascular dementia, so this is unsurprising but highly welcome news," said Dr Sam Gandy, the Mount Sinai chair in Alzheimer's Disease Research and associate director of the Mount Sinai Alzheimer's Disease Research Centre, in New York City.

The report was published online in September in *Archives of Neurology*.



**Nearly 40 percent of the small, benign adrenal tumours that cause big problems with high blood pressure share a genetic mutation that causes patients to retain too much sodium, according to researchers at Georgia Health Sciences University (GSHU).**

A previous study in 2011 led by Yale University and published in the journal *Science* showed that many tumours had a *KCNJ5* gene mutation.

The GSHU researchers, along with colleagues at University of Michigan Medical School, Universities of Torino and Padova, Italy, University of Texas Southwestern Medical Centre and Keio University, Tokyo took the research a stage further.

When they put the mutated gene into an adrenal cell, it immediately started producing the sodium-retaining hormone aldosterone.

"When this gene has a mutation, the cells lose control and just start producing aldosterone all the time," said Dr William E. Rainey, corresponding author of the study in the *Journal of Clinical Endocrinology and Metabolism*.

This research team also showed that the mutation is twice as likely to occur in women as in men, and the GSHU Adrenal Centre is now moving forward with studies to determine why.



### A life-vest for the future

When the brain is deprived of oxygen, as can be the case with a heart attack, cardiac arrest or a stroke, there is the possibility of brain damage.

Lowering the body's core temperature has been shown to decrease this likelihood.

In a process known as therapeutic hypothermia hospital medical staff administer chilled-water blankets or insert cold drip catheters in order to protect patients who have just experienced a cardiac arrest or stroke.

Away from a hospital environment though this can't be done, but in the near future bystanders may be able help by fitting victims with a cooling vest, possibly saving them from permanent brain injury.

A prototype vest is currently being developed at Germany's Hohenstein Institute, by a team led by Professor Dirk Höfer. The device incorporates water-filled cooling



pads, connected to an adjacent vacuum-pressurised sealed metal container, inside which are zeolites; silicate minerals known for their ability to rapidly extract heat from water.

In the event of a cardiac arrest, the vest would be placed on the patient as soon as possible. This could be done by non-medical personnel, while they wait for paramedics to arrive. A valve in the system would then be opened, allowing the water in the pads to

circulate through the zeolite container and back into the pads. This would cool the water to a near-freezing temperature very rapidly, in turn cooling the patient. The whole process would be non-invasive, and not require any power source.

The research team envisage the vests being available for emergency use in public places where anyone can access them to administer first aid in the case of emergency.

### Stress makes some of us hold onto more salt

Stress causes the bodies of some black people to retain as much salt as eating an order of chips, a new study finds.



The U.S. researchers found that when stressed, about 30 percent of black people are salt retainers. In response to stress their bodies can hold onto around 160 milligrams of salt and their systolic blood pressure can increase by an average of seven points above normal and stay elevated for an hour.

Over the course of a day, this stress response adds a daily sodium load of about 500 milligrams to a typically salt-heavy diet, according to study

author Dr Gregory Harshfield, a hypertension researcher at Georgia Health Sciences University, in Augusta.

Dr Harshfield said, "Everybody knows stress is bad for you and everybody has the perception that a high-salt diet is bad for you, and both are particularly bad for these individuals.

"Every time they are stressed, they hold onto as much salt as you get eating a small order of French fries and this can occur many times over the course of even a good day.

"This increased retention of sodium likely causes blood pressure to stay elevated even during sleep, which should be a recuperative time for the body."

## Learn what to do if you see a sudden cardiac arrest

Sudden cardiac arrest (SCA) can strike anyone at any time but some people, including those with high blood pressure, are considered more at risk. Unlike a heart attack victim who although in pain is still conscious, a victim of SCA has no visible signs of life and is in urgent need of cardiopulmonary resuscitation (CPR) and defibrillation to shock their heart back into its normal rhythm.

Most sudden cardiac arrests don't occur in a hospital. The victim could be anywhere, and this is why automated external defibrillators (AEDs) are becoming a more common site in public places and workplaces.

A new website explains the importance of acting quickly when someone suffers from a sudden cardiac arrest and includes advice on how to use an AED while administering CPR.

The devices are designed to be simple to use. They give clear audio instructions and an onboard computer assesses the patient to determine if a

shock is required. If it isn't, the activation button won't work thereby preventing any accidental harm to the patient.

Without help, an SCA victim may die within 10 minutes; for every minute that goes by without defibrillation being administered their chance of survival falls by 7-10%. Emergency services take an average of 9 minutes to arrive which could be too long, so knowing how to use one of the portable AEDs appearing in shopping centres, stations and restaurants means all of us could save a life.

To find out what to do if someone near to you suffers a sudden cardiac arrest, visit [www.SaveLives.net](http://www.SaveLives.net)



## SMART T-SHIRT COMES TO UK

A 'smart T-shirt' that acts as a remote monitoring system for the chronically ill is to be trialled in the UK.

The system, which has been developed through the Chronious chronic disease management project in Europe, was designed initially for chronic obstructive pulmonary disease and chronic kidney disease (CKD) patients, but can be adapted for those suffering other chronic illnesses that require long-term care.

A light-weight t-shirt is fitted with heart, respiratory and activity monitoring sensors, that work alongside external devices such as a digital weight scale, glucometer, blood pressure monitor, spirometer and air quality sensors used in the patient's home.

All the devices are connected to a mobile device, such as a smartphone, which transmits the patient's data to their care provider.

Robert Rosso, research and development manager at telehealth provider TESAN in Italy, who leads the project, said that the system would help treat diseases that require patients to regularly visit their doctor.

The project believes the system will reduce the need for regular check-ups while alerting clinicians to an immediate change in a patient's vital signs, potentially saving lives.

## PLANT DERIVED DRUG GETS A NEW LEASE OF LIFE

**Scientists have discovered that digoxin, a medication commonly prescribed to treat atrial fibrillation and congestive heart failure, could also treat high blood pressure.**

Digoxin is extracted from foxglove (digitalis) leaves and its use as a medicine can be traced back as far as the 1650 'London Pharmacopoeia'.

Still prescribed today, researchers from the University of Michigan believe they have discovered a potential new therapeutic use for digoxin due to its previously unknown ability to protect a protein involved in blood pressure control called RGS2.

An absence of RGS2 has been shown to be associated with an increase in blood pressure in mice, so the team wanted to identify a compound that could boost its levels. Hoping that such a drug already existed, they tested thousands of medications on engineered human kidney cells and mouse blood vessel cells. Digoxin worked.

The researchers believe it slows down the natural breakdown of RGS2 which is thought to exert its effect on blood pressure by interacting with angiotensin II.





## HIGH BLOOD PRESSURE CAN CAUSE DAMAGE TO MIDDLE-AGED BRAINS

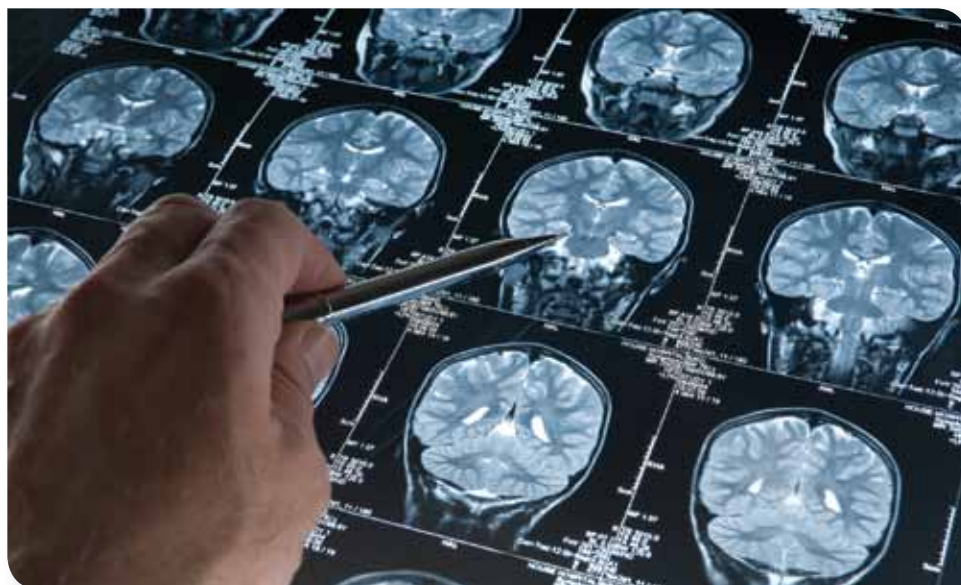
Uncontrolled high blood pressure damages the brain's structure and function as early as young middle-age, a study led by researchers at the University of California has found.

The investigation found accelerated brain ageing among hypertensive and pre-hypertensive individuals in their 40s, and according to the authors is the first to demonstrate that there is structural damage to the brains of adults in young middle age as a result of high blood pressure; damage that can cause the kind of mental decline seen in dementia sufferers.

It emphasises the need for lifelong attention to vascular risk factors for brain ageing, said study senior author, Professor of Neurology, Charles DeCarli.

He said, "The message here is really clear. People can influence their late-life brain health by knowing and treating their blood pressure at a young age, when you wouldn't necessarily be thinking about it.

"The people in our study were cognitively normal, so a lack of symptoms doesn't mean anything." The research appeared in *The Lancet Neurology* online in November and in print in December 2012.



## Scientists delve into the brain for blood pressure clues

University of Bristol researchers have received funding to research novel therapeutic targets for the treatment of high blood pressure.

Much is already known about causes and mechanisms involved in raised blood pressure, but the jigsaw is by no means complete and this research could help fill in some of the gaps leading to more effective treatment.

Scientists from the University of Bristol's School of Physiology and Pharmacology are leading the five year study and believe one area that warrants investigation is the link between the brain and increased blood pressure. They aim to provide new evidence showing that poor blood flow to the brain can trigger high blood pressure that serves to provide the blood-starved brain with the oxygen it needs.

The lead scientist for the study, Julian Paton, (pictured) said, "You have

to consider the brain as the most selfish organ in our body; if it is not satiated with enough blood flow it is the most powerful organ in the body for ramping up the pressure."

The analogy made is the explanation proposed for the high blood pressure known to exist in giraffes.

"To overcome the effect of gravity, the giraffe has had to develop 'physiological' high blood pressure to be able to pump blood to its brain. We have supposed that this is driven by the brain," Julian explains.

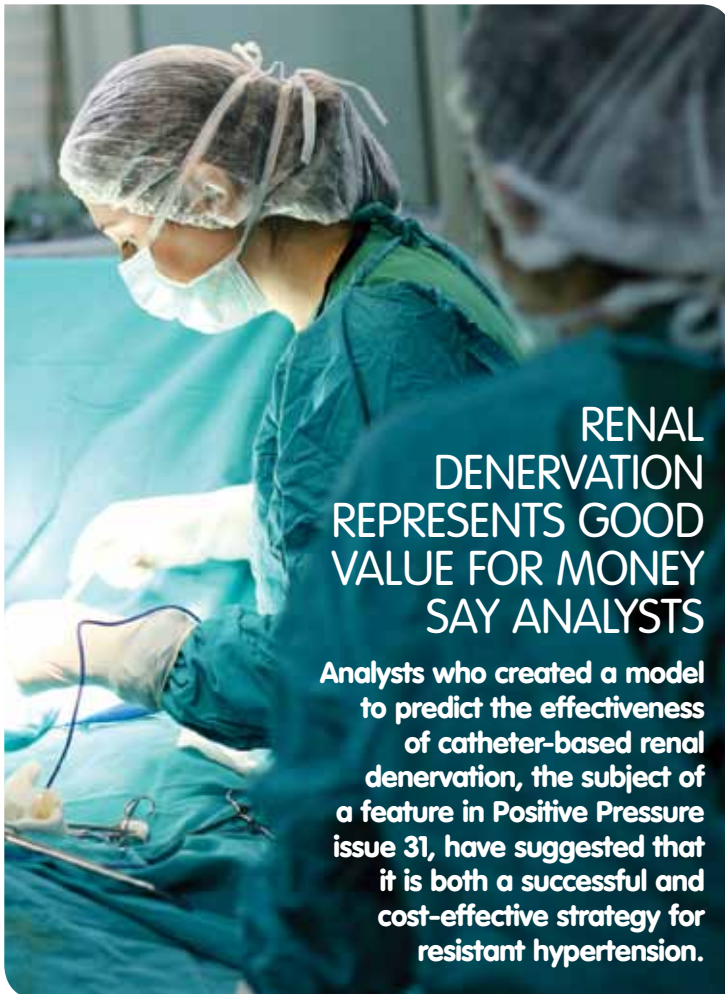
The key question to be addressed is how the brain itself senses a shortage of blood flow and how it then causes blood pressure to rise. This is clinically important as the problem in some humans with high blood pressure

is the tightness of brain blood vessels limiting blood flow into the brain.

He continues, "If we can find ways to relax the main vessels feeding the brain with blood this should lower blood pressure".

The work has the potential for the development of novel therapies, both medicinal and surgical, which avoid side effects associated with some current drug treatments.





## RENAL DENERVATION REPRESENTS GOOD VALUE FOR MONEY SAY ANALYSTS

**Analysts who created a model to predict the effectiveness of catheter-based renal denervation, the subject of a feature in Positive Pressure issue 31, have suggested that it is both a successful and cost-effective strategy for resistant hypertension.**

Their aim was to develop a decision-analytic model to predict long-term cardiovascular consequences and also to assess its cost-effectiveness based upon the long term clinical effectiveness compared to current standard care.

Using the model, the study predicted that renal denervation could substantially reduce the 10-year risks for stroke by 30%, heart attack by 32%, all coronary heart disease by 22%, heart failure by 21% and end-stage renal disease by 28%.

In addition, the predicted reductions in stroke, heart attack, coronary heart disease, heart failure, and end-stage renal disease in a lifetime were 17%, 15%, 10%, 8%, and 19%.

Co-author of the study Brent Egan from the

Medical University of South Carolina, said,

“These results suggest that renal denervation is a cost-effective strategy for resistant hypertension. Moreover, this health-economic model indicates that renal denervation may decrease mortality and reduce cardiovascular events in treatment-resistant patients, which would offer a major advancement in our approach to addressing this growing and costly disease.”

Benjamin Geisler, who led the study said,

“Although renal denervation therapy represents an additional cost at time of treatment, it seems to offer great value over time.”

The results were reported in *Journal of the American College of Cardiology*.

## Pre-hypertension is in DNA

**According to a study of identical and non-identical twins and their siblings and family members, heredity appears to play a significant role in the development of pre-hypertension.**

Pre-hypertension means having either systolic blood pressure of 120 to 139 or diastolic blood pressure of 80 to 89 or both and is a risk factor for high blood pressure and cardiovascular disease.

The study, carried out by Dr Daniel T. O’Connor and colleagues, of the University of San Diego reported that trait heritability affected systolic pressures, blood noradrenalin levels and heart rate.

Among the different groups, men were more



likely than women to exhibit pre-hypertension and there was an increased frequency of pre-hypertension among the African Americans in the study.

Being aware of this could potentially be life saving for anyone with a family history of hypertension because preventive measures and treatment options can mitigate the potential damage to the heart or other organs.

The research appeared in June issue of the *Journal of the American College of Cardiology*.



# How your blood pressure medicines work

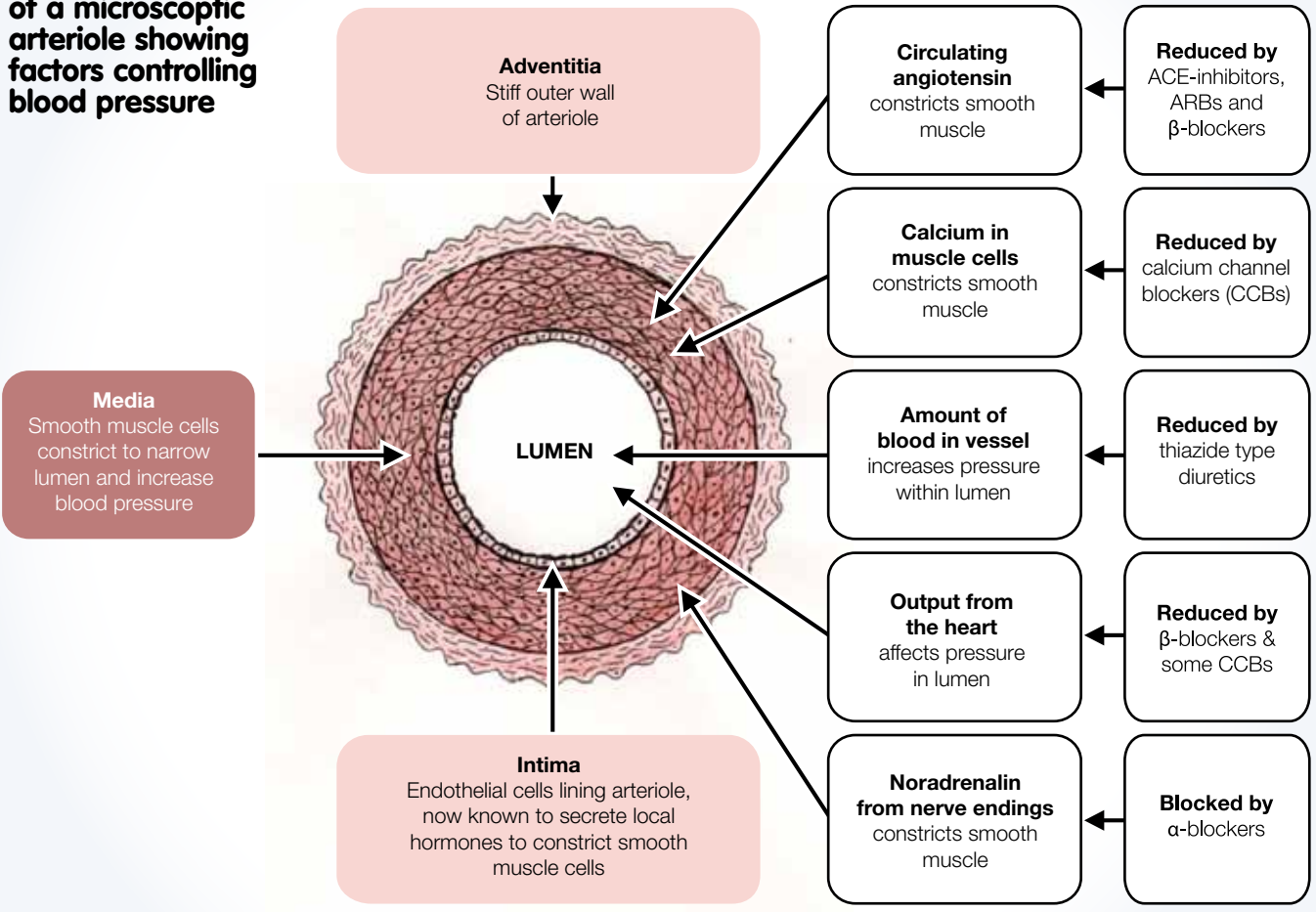
Our blood pressure has to be high enough to efficiently deliver oxygen-carrying blood to our lungs and nutrients to other body tissues.

It is determined by the pumping strength of each heartbeat, the volume of blood in the circulation and the diameter of the blood vessels. These are controlled by complex systems involving the brain, heart, kidneys, liver, nerves and blood vessels.





**Cross section diagram of a microscopic arteriole showing factors controlling blood pressure**



Copyright Blood Pressure UK

The mechanisms that control blood pressure have been the subject of much research, both to understand them and to use this knowledge to know how to put things right when they go wrong. It has enabled the development of the different types of drugs to lower raised blood pressure and in this article we explain how the most commonly prescribed antihypertensive drugs work.

**ACE inhibitors and ARBs**

ACE inhibitors and angiotensin receptor blockers (ARBs) lower blood pressure by acting on the renin-angiotensin-aldosterone system.

ACE inhibitors prevent the production of the hormone angiotensin II by angiotensin converting enzyme (ACE). Angiotensin II is a powerful, circulating vasoconstrictor which causes blood vessels to narrow and raise blood pressure. Blocking its action keeps blood pressure down. Angiotensin II also triggers the adrenal glands to produce another hormone called aldosterone. Aldosterone makes the body hold on to salt and water and the extra volume of fluid in the blood also causes blood pressure to rise.

Together, the increase in blood volume and the narrowing of the blood vessels both have an adverse effect on blood pressure, so preventing production of angiotensin II lowers it in two ways.

ARBs (angiotensin II receptor blockers) work in a similar way to ACE inhibitors. Instead of preventing the action of angiotensin converting enzyme though, ARBs prevent angiotensin II from working once it has been made. They do this by preventing it from attaching to the adrenal glands and blood vessels.

**Calcium-channel blockers**

These lower blood pressure by preventing calcium from entering the band of smooth muscle cells within

arterioles. Arterioles are small blood vessels that are important in maintaining blood pressure.

The smooth muscle controls the width of the vessels and when calcium enters the muscle cells it causes them to contract and this means that the blood vessels narrow. By preventing this, the blood vessels are forced to relax and remain dilated, so blood pressure is reduced. Calcium channel blockers also have an effect on the cardiac muscle of the heart. By blocking calcium entering this type of muscle, they can slow down and reduce the force of each heartbeat to reduce the amount of work the heart is doing and this is why this type of drug is also sometimes prescribed for other conditions such as angina.

### Thiazide-type diuretics

**Diuretics work by interfering with the filtering process in the kidneys.**

The normal function of the kidneys is to filter out water, salts (mainly potassium and sodium) and waste products from the bloodstream by passing the blood through millions of structures called nephrons.

Most of the water and salts are re-absorbed back into the bloodstream, but some are left behind with the waste products to form urine, which then passes from the kidneys to the bladder.

Diuretics work by reducing the amount of salt and water which is re-absorbed back into the bloodstream. This increases the amount of urine produced and reduces the amount of fluid in the bloodstream. The overall volume of blood is therefore decreased which helps to reduce blood pressure and gives the heart less work to do.

Thiazide-like diuretics are the type prescribed for high blood pressure. They lower blood pressure in this way but also have another action. Like some other types of anti-hypertensives they also relax arterioles which causes them to widen and blood pressure to fall. Researchers are not yet sure how thiazide diuretics actually do this, but it is an important effect in blood pressure maintenance.



### Beta-blockers

**Modern-day beta-blockers work by blocking the action of noradrenaline on heart muscle cells.**

Noradrenaline and adrenaline are the two chemicals produced during our innate fight-or-flight response which prepares us in emergency situations. They cause some blood vessels to widen and others to contract and also speed up the heart and make it beat harder to get the maximum amount of blood to where it is needed most if we have to run or fight.

Beta-blockers prevent noradrenaline from attaching to heart muscle by attaching there instead, so the heart slows down and beats less forcefully, keeping blood pressure down.

Beta-blockers also act on the kidneys where they prevent the release of an renin. Renin is responsible for the formation of angiotensin 1 which is converted into angiotensin II by ACE, and angiotensin II raises blood pressure.

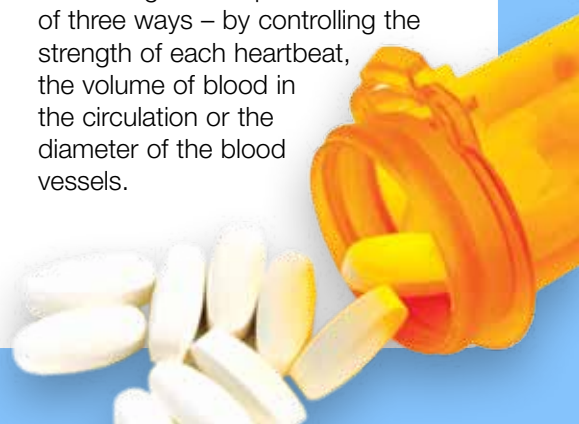
### Alpha-blockers

**These drugs work by blocking the action of the chemical noradrenaline on the smooth muscle layer in blood vessel walls.**

They work in a similar way to beta-blockers except that they attach to the muscle cells in blood vessels rather than those of the heart.

Noradrenaline causes the muscle within blood vessels to constrict so by preventing this, alpha-blockers cause the vessels to relax to lower blood pressure.

However they work, the most common medicines prescribed to control high blood pressure do it one of three ways – by controlling the strength of each heartbeat, the volume of blood in the circulation or the diameter of the blood vessels.







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## Helping others with High Blood Pressure

### Have you thought of Blood Pressure UK in your Will?

Finding out that you have high blood pressure is traumatic, particularly if you are young. Most people don't know anything about the condition and worry about how it will affect themselves and those around them.

But Blood Pressure UK is here to help, and with our information

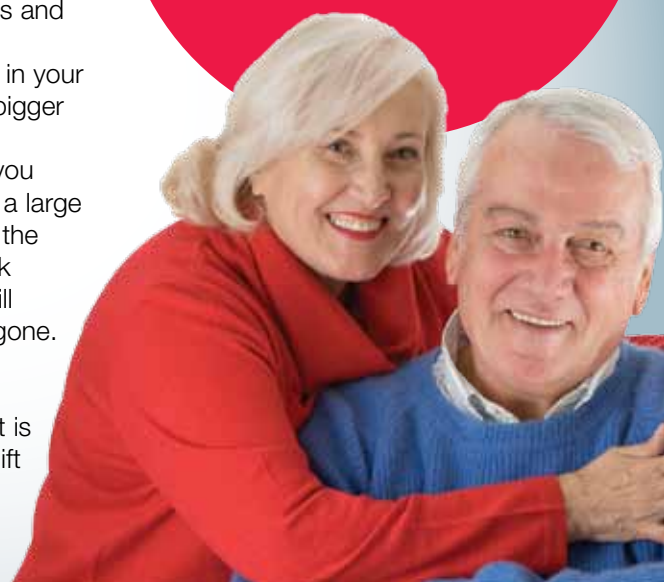
packs, range of leaflets and our helpline, we provide reassurance and support to sufferers and their families. But all of this work is expensive and while membership subscriptions and general donations help enormously, leaving a gift in your Will can help us make a bigger difference.

It isn't complicated as you think, doesn't have to be a large amount and will give you the reassurance that our work helping fellow sufferers will continue once you have gone.

Obviously, providing for your family and friends comes first, but once that is done please consider a gift to Blood Pressure UK in your Will.



We have put together a simple leaflet to guide you through the process and you can get a copy by telephoning: (020) 8772 4994, visiting the website: [www.bloodpressureuk.org](http://www.bloodpressureuk.org), or by writing to: Blood Pressure UK, FREEPOST LON17815, 60 Cranmer Terrace, London SW17 0QS.



# Know your Numbers! Week 2012



Pharmacists, nurses and occupational health advisors once again set up life-saving Pressure Stations around the UK and tested the nation's blood pressure during this year's Know your Numbers! Week.

**Do you know your partner's blood pressure?**  
**FREE BLOOD PRESSURE CHECKS**  
 KNOW YOUR NUMBERS! WEEK 10-16 SEPTEMBER 2012



**1 in 3 adults in the UK has high blood pressure.**  
**High blood pressure kills. Make sure you know yours.**  
 Lower your odds of stroke and heart attack – have a free blood pressure check today.

Get your free check at:

Date and time:

Or find your nearest check at [www.bloodpressureuk.org](http://www.bloodpressureuk.org)



Members of the public went to get tested alongside their partners as we released new research that showed adults in the UK are three and a half times more likely to know their partner's shoe size and four times more likely to know their place of birth than their blood pressure.

We released the new research to urge every adult to go and get their all important blood pressure taken and to take their partner with them. We also saw this year's Know your Numbers! Week as the perfect time to re-launch as Blood Pressure UK. Our new name helped us reach even more people and will help us reach millions more people in the future, helping to raise vital awareness of the dangers of high blood pressure.

This year over 1,600 Pressure

Stations were set up across the country. From a pharmacy in Cornwall, to a market in Mablethorpe, to an auction mart in the Orkney Isles, we covered England, Wales, Scotland and Northern Ireland with Pressure Stations and health professionals were at the ready to test the nation's blood pressure.

Know your Numbers! Week is the highlight of our Know your Numbers! Campaign which plays a key role in our fight against high blood pressure, raising awareness of its dangers to help reduce the thousands of strokes and heart attacks it causes each year. Everyone tested receives a card with their blood pressure numbers on and an information leaflet explaining high blood pressure, what the numbers mean and containing advice on how

Richard Sloan (right) from LoSalt, got his blood pressure taken at New Life Pharmacy in Glasgow. Richard says, "LoSalt is always keen to help support and promote Know Your Numbers. It is a great way of raising awareness and motivating people to have their blood pressure taken. A lot of people, especially men, don't consider getting these things tested and so will carry on with an unhealthy diet and lifestyle, oblivious to the fact they may have high blood pressure. Getting my blood pressure was quick and easy, and getting a better result than last year helped reassure me I was doing the right things!"





## **“We’re very pleased with this year’s Know your Numbers! Week and all the extra support we received to help us make the most of changing our name to Blood Pressure UK.”**

they can help to lower it.

Community centres, pharmacies, markets, supermarkets, gyms and occupational health departments armed themselves with blood pressure monitors and transformed themselves into Pressure Stations, helping to ensure the week was once again a great success.

The Ulster Chemists Association encouraged all their members to take part and as a result we had our highest ever number of Pressure Stations in Northern Ireland, with nearly 60 Pressure Stations offering free checks.

In Wales Prestatyn Town Council opened its doors to the public, encouraging everyone to know their blood pressure numbers the same way they know their height and weight. Prestatyn Council has taken part in Know your Numbers! Week for a number of years and has referred at least one person with dangerously high blood pressure to their GP every single year.

In Scotland, NHS Highland set up Pressure Stations across the region, enabling people who wouldn’t usually have a blood pressure check to have a free one and Auction Mart on the Isle of Orkney, normally the

site of livestock sales, hosted a Pressure Station for NHS Orkney.

In England, Newcastle Community Stroke Team ran Pressure Stations in both Asda and Sainsburys, while slightly further south County Durham and Darlington NHS Foundation ran no fewer than seven Pressure Stations. NHS Lincolnshire gave blood pressure checks to shoppers at Mablethorpe Market and Raj Patel at Mount Elgon Pharmacy in Wimbledon tested the blood pressure of local MP Tom Brake. Other MPs who supported the event included John Leech, MP for Manchester Withington and Alistair Carmichael, MP for Orkney and Shetland.

Blood Pressure UK Chairman, Paul Newman said, “We’re very pleased with this year’s Know your Numbers! Week and all the extra support we received to help us make the most of changing our name to Blood Pressure UK.

“Our new name will help people identify us as the charity for people with high blood pressure and mean we increase our reach to even more people. “I would like to thank everyone who made this year’s event such a success.”

### **Chairman hits the airwaves**

Blood Pressure UK Chairman Professor Graham MacGregor took to the airwaves during this year’s Know your Numbers! Week along with Paul Pennington from weekly radio series, **Word on Health**, to tell people about the dangers of the UK’s biggest silent killer and encourage listeners to get their free blood pressure check. The broadcast went out to 78 independent radio stations across the UK and around the World and meant hundreds of thousands of people heard about our free blood pressure checks.



**Left: John Leech**

**Above right: Tom Brake getting his pressure taken**



Know your Numbers Week

LoSalt is the UK's leading low sodium salt alternative. LoSalt this year again ran its Salt Smart Award, which aims to educate both chefs and students about the dangers of too much sodium in the diet.

# Getting the low-down on LoSalt



Blood Pressure UK is proud to be one of the judges of the award and we caught up with Richard Sloan from LoSalt for a bit of a chat about all things LoSalt.

## What is the science behind LoSalt?

LoSalt is a blend of two naturally occurring mineral salts, sodium chloride and potassium chloride. Although sodium is vital for our health, most of us are consuming too much of it. Since LoSalt has two thirds less sodium, it is a healthier alternative to regular salts (which are 100% sodium chloride), and still delivers a salty flavour to food. Potassium is also vital to our body, and most of us aren't getting enough. It has been shown to help maintain a healthy blood pressure, as well as being vital for fluid balance and normal muscle and nerve function.

## What are LoSalt doing to reduce the nation's salt intake?

Much of our marketing is about educating consumers about the dangers of too much salt in the diet. We work closely with Blood Pressure UK and the salt awareness campaigners 'CASH' to push important messages of reducing salt content and taking steps in your diet to reduce blood pressure. We promote this both offline in adverts and online through our website, blogs and our social media channels. We

also provide samples and literature to anyone looking to promote salt health, or just healthy eating in general.

## What are the Salt Smart Awards and is it just for further education institutions?

This is a competition we have run for the past two years, encouraging caterers at further education institutions across the UK to promote salt health and switch to LoSalt as part of wider ranging changes to make menus healthier. In 2013, we plan to expand the Award even more, opening it up to all catering departments who wish to promote salt health. This can be universities, colleges, workplaces, cafés or golf clubs; wherever food is served.

## What is the reaction you get from caterers and how does it compare to members of the public?

It has been well received. We have been extremely impressed with the quality of entries too, with real efforts to make changes to menus to give students healthier, low salt choice options.

I think it can be difficult for caterers to make changes too. They are under pressure from different sides to stay within ever tightening budgets, but also to make menus more healthy, which can be more expensive. I suppose it is the same for consumers, being told to eat a more varied, healthy diet but often without the

disposable income to do so. It is all about making positive changes where you think it is necessary, and hopefully salt is an issue worth addressing, given its proven impact on blood pressure.

## How much and what sort of interaction do you have with people who have high blood pressure?

We are always happy to offer advice and send samples to those people with high blood pressure who get in touch and want to try our product. We always encourage people to get in touch, whether it is via our website, the telephone or our Facebook pages.

It's great having our partnership with Blood Pressure UK, who are a great source of information for us to give advice about blood pressure and how salt intake can impact upon it.

## What changes would you like to see to the nation's eating habits?

Well obviously we are most concerned with the nation's salt health. On average, around 75% of the salt we consume is already in the food we eat, before we add any salt in cooking or at the table. So we would like to see the current move towards cooking from scratch, using fresh ingredients with less reliance on processed, microwave-meals which are packed with salt. That way, we can keep an eye on what we are eating.



# Spiced butternut squash soup

Make a big batch of this silky smooth soup for a quick lunch or a light meal for unexpected guests.

## Ingredients

1 butternut squash  
(weighing about 1 kilo)

About 4 tablespoons olive oil

50g plain flour

600ml vegetable  
or chicken stock

1 tablespoon mild curry  
powder or curry paste

125 ml soured cream

Half a small cucumber (peeled if  
wished) and finely diced

LoSalt and freshly ground  
black pepper, to taste

## Serves 4

Preheat oven to 180°C FAN/400°F/  
Gas mark 6

Halve the squash lengthways, scoop out the seeds then cut away the skin or peel with a vegetable peeler. Cut into large chunks and scatter into a roasting

tin. Toss with a few tablespoons of olive oil, season with LoSalt and roast for approximately 30 minutes until tender.

Tip the butternut squash and any sticky pan juices into a large saucepan and stir in the curry powder. Cook over a high heat for a good 2 minutes to toast the curry powder and release the flavours.

Stir in the flour and cook for a further 2 minutes then gradually add the stock, stirring continuously. Bring to the boil, reduce the heat, half-cover and simmer for a further 30 minutes.

Leave soup to cool a little, then using an electric food blender or stick blender, puree the soup until smooth. Taste and adjust seasoning with LoSalt and freshly ground black pepper.

Mix half the cucumber with the soured cream and season with LoSalt and ground black pepper.

To serve, ladle the soup into warm bowls and serve with a dollop of soured

cream, some diced cucumber and a grinding of black pepper.

## Alternative garnish: Beetroot Crisps

Preheat oven to 160°C FAN/350°F/  
Gas mark 4. Peel and slice 2 medium beetroot very thinly, then rinse in cold water and dry well on kitchen paper. Arrange on a non-stick baking tray and cook for approximately 25 minutes or until crisp. Sprinkle with LoSalt and serve a pile on the side of each dish.

TAKEN FROM  
**FOOD FOR  
THOUGHT** - A  
COLLECTION OF  
RECIPES FROM  
LOSALT'S SALT  
SMART AWARD.



# Stay healthy this winter

It may well be cold and wet outside but winter doesn't have to be an unhealthy time of year. These few tips will help stave off the winter blues and help you have a healthier winter time.

## KEEP WARM

Cold weather causes blood vessels to narrow, so can cause a rise in blood pressure. Keeping warm indoors and out will help keep things on an even keel and reduce the risk of the serious health problems that occur more often during the winter months, such as chest infections, heart attack and stroke.

To help keep warm indoors without causing fuel bills to rocket, roof, window and door insulation can prevent heat loss and draughts.

If you are eligible, make sure you

claim all the financial support that is available to help with winter fuel bills and ensure heating and cooking appliances have been serviced to maximise their efficiency and prevent production of carbon monoxide; it kills.

Follow up on your GP's invitation to have a flu jab, order repeat prescriptions in plenty of time and find out if your local pharmacy has a prescription pick-up and delivery service in case really bad weather prevents you from getting out.

Dress in plenty of layers to stay warm and wear warm boots with non-slip soles in icy conditions.



## EAT WELL

**Having a hearty breakfast on cold mornings helps to boost your intake of fibre and starch to give you energy, ward off cholesterol and fats from the body and feel full for longer.**

Porridge is the perfect way to start a winter's day and oats contain lots of vitamins and minerals too. Make your porridge with semi-skimmed or skimmed milk and sweeten it with some dried fruit, or banana slices to help towards your five-a-day.

In the cold and dark it is tempting to eat comfort foods like cakes and biscuits, but it is especially important in the winter months to keep to a healthy diet and reap the rewards that eating plenty of fruit and vegetables proffers.

If you find yourself craving a sugary treat try a juicy, seasonal clementine or satsuma instead or sweet, dried fruits such as dates or raisins.

Winter veggies such as carrots, swede, squash, pumpkin, turnips and parsnips can be roasted, mashed, and casseroled or made into a warming soup or stew, and they are high in fibre, vitamins and blood pressure-friendly mineral, potassium.

Dairy products will also help keep

your immune system in top condition; a good idea in the winter months when we are 80% more likely to catch a cold or flu. Fromage frais, yoghurt and cheese are good sources of protein and vitamins A and B12 and an important source of calcium, another blood pressure-friendly mineral that also helps keep bones dense. Stick to low fat varieties if possible and to skimmed and semi-skimmed milk.

Finally, keep basic food items in cupboards and freezers in case it is too cold to go shopping.



## KEEP ACTIVE

**Other seasonal causes of higher blood pressure include weight gain and decreased exercise.**

Regular exercise helps to control your weight and boost your immune system. It is also a good way to diffuse any tension that has built up between family members who aren't used to being cooped up inside the house together.

So, if you are able to and if it is not too cold, wrap up warm and get out with the whole family to

the park, woods or even the beach.

These days, exercising indoors at home is becoming ever more popular due to the advent of consoles such as the Nintendo Wii, so for those that don't want to venture out there is a whole range of indoor activities for all ages and abilities to keep us active.



**THROUGHOUT THE YEAR, CONTINUE TO MONITOR YOUR BLOOD PRESSURE READINGS AS THE SEASONS CHANGE AND DO TALK TO YOUR DOCTOR IF YOU ARE CONCERNED ABOUT ANY VARIATIONS.**

## SLEEP WELL



**It is thought that sleeping less than six hours a night could be linked to increased blood pressure.**

Sleep helps to regulate the stress hormones which become elevated throughout the day, enabling the nervous system to calm down, so getting the right amount; seven to nine hours each night, is important in both the prevention and management of high blood pressure.

Lack of sleep depletes your immune system too, leaving you more vulnerable to winter colds and flu.

Sleeping more in winter is natural, so take advantage of the long, dark nights to get more of a rest, catch up on your sleep-debt and keep well.

A relaxing night time routine can help if sleeping is a problem. A warm bath or listening to soft music rather than watching television or playing computer games before bedtime will promote sleep.

Turning the lights down causes the brain to release more of the sleep-inducing hormone melatonin, so try this an hour before you plan to go to bed.

Keeping to a routine of going to bed and getting up at the same time every day, including during holidays and at weekends can also help. If sleep still evades you, speak to your doctor for more help and advice.

# It's Christmas!

It's Christmas, so let's eat, drink and be merry and here's how to do it without throwing caution to the wind as far as our health is concerned.

## The main event

For many of us, it just wouldn't be Christmas without a turkey. The tradition of eating turkey at Christmas only dates from the 19th century, when it started to be eaten in place of goose. This was good news in terms of healthy eating, because turkey contains more protein and much less fat than goose or duck. If you are planning to tuck into a turkey this Christmas, avoid cooking it in a heavy saturated fat such as lard or goose fat and try to avoid eating the skin which is particularly

high in fat.

For many vegetarians, nut roast has become the traditional Christmas dish. High in protein and low in fat, it's even more festive with a few cranberries or chestnuts added.

Heaps of vegetables are an essential part of the Christmas meal. Potatoes, although not part of our five-a-day, are a starchy food containing energy-providing carbohydrate as well as fibre and other important vitamins and minerals. Cooking them in vegetable oil is a healthier option than in animal fat and cutting them into larger chunks

will mean they absorb less fat. As they aren't part of our five-a-day leave room for the root veg.

Root veg are best friends with turkey and do count towards our five-a-day. Carrots, parsnips, swede and parsnip can be roasted, boiled, or braised and leftovers make great soup.

Brussels sprouts are a Christmas staple and are a nutritional powerhouse. Delicious steamed, boiled or even roasted, a 1/2 cup serving of steamed and drained sprouts comes in at only 28 calories with only 16 mg of sodium, yet has 2 grams of dietary fibre and 2 grams of protein. They are rich in vitamin C and also contain vitamin A, calcium



**FOR A BIT OF  
EXTRA FLAVOUR  
ADD SOME HERBS  
INSTEAD AND USE  
THE COOKING  
WATER TO MAKE  
THE GRAVY.**





## Drinks and nibbles

What you drink, as well as what you eat can have an impact on your blood pressure, but most of us like a bit of fizz or a tippie at Christmas so here are a few tips for a more healthy way to enjoy a little Christmas spirit.

Instead of a creamy eggnog or liqueur opt for a glass of Burgundy, known for its high concentration of heart health antioxidant, resveratrol. Avoid drinking alcohol in excess though, as this is bad news for blood pressure.

Avoid concentrated juices and fizzy drinks; they can contain as many as 10 teaspoons of sugar per serving. Instead, opt for fruit smoothies, sparkling waters

and herbals teas, such as rooibos and hibiscus; both high in antioxidants.

Try to avoid too many caffeinated drinks such as percolated coffee, which can cause a transient, yet sometimes dramatic increase in blood pressure.

Nuts, dried figs and dates are good sources of a range of vitamins and minerals, so if you need to, nibble on a handful of unsalted nuts, some dried

fruit or a festive fruit such as a clementine, tangerine or satsuma which are all rich in antioxidant vitamin C. It's easy to forget over winter, but make sure you keep yourself hydrated with plenty of water too. This will prevent dehydration and help keep hypertension under control.

With a little thought, Christmas dinner can still be the veritable feast it should be, without being a guilty pleasure.



**LOW SALT STOCK CUBES ARE MUCH MORE WIDELY AVAILABLE THESE DAYS IN THE SUPERMARKETS**

and iron.

Steaming vegetables retains more vitamins, but if you prefer to boil them, remember not to add salt to the water. For a bit of extra flavour add some herbs instead and use the cooking water to make the gravy. This makes for a healthier gravy as you will need less stock cubes, granules or powder, which all tend to be very high in salt. Low salt stock cubes are much more widely available these days and are worth looking for in the supermarkets.

Chestnut stuffing is low in fat and a good source of potassium, so is a much better idea than sausage meat, and cranberry sauce is traditional and great for adding flavour and colour to the festive meal. Cranberries are rich

in nutrients and antioxidants too.

### Something for dessert

Another Christmas classic is the Christmas pudding, with its rich concoction of dried fruits such as raisins, sultanas and currants. Christmas pudding is fairly low in fat and high in carbohydrate. It also provides some fibre, B vitamins, potassium, iron and calcium, but it tends to be high in sugar. Eat it with low-fat custard for a calcium boost or even fat-free Greek-style yoghurt instead of brandy butter or double cream.

For a lighter dessert, fresh fruit is a great alternative and being full of vitamins, minerals, antioxidants, fibre and potassium can help maintain a healthy blood pressure. Try serving a big fruit salad and make it extra special by adding some tropical fruits such as papaya and pomegranate, a good source of both antioxidants and blood pressure lowering nitrates. Added nuts are a good source of magnesium, another blood pressure-friendly mineral, and stewed berries with plums, apples and cinnamon will make a delicious compote. Serve it all up with some plain yoghurt or on its own.

# A healthy and happy new year

A healthy and happy new year 🍀





We can date the making of New Year's resolutions back to the ancient Babylonians who promised their gods at this time that they would pay their debts and return things on loan. The Romans made promises to the god Janus, and their resolutions had a moral flavour to them as they promised to be good to others.

In the Middle Ages, knights of the realm placed their hands on a peacock and re-affirmed their commitment to chivalry at the end of the Christmas season in a tradition known as taking the peacock vow, and children of 17th century Puritans were encouraged to reflect and commit to resolutions such as avoiding their habitual sins, being charitable to neighbours and to better employing their talents.

The concept, throughout the ages has been to annually reflect upon self-improvement, although modern day resolutions often centre more on

**MAINTAINING A HEALTHY WEIGHT IS SO IMPORTANT IN MAINTAINING OVERALL HEALTH, AND EVEN MORE SO IF YOU HAVE HIGH BLOOD PRESSURE**

improved health and wellbeing, rather than improving our moral standards and behaviours towards others.

In a study by psychologist Professor Richard Wiseman 88% of those who set New Year

resolutions failed, despite the fact that 52% of the study's participants were confident of success at the beginning.

With this in mind, we have a few ideas for New Year's resolutions plus tips on how to stick to them.

### **Lose weight if you need to**

This is among the most popular resolutions made each year, which may in fact be a reflection of just how hard it is to commit to and achieve.

Maintaining a healthy weight is so important in maintaining overall health, and even more so if you have high blood pressure. Your body mass index (BMI) should be between 18.5 and 25.0. If it is above this, losing a little weight would be beneficial. ▶



## **STOP SMOKING**

**Nobody ever regrets giving up smoking**

**After just twenty minutes blood pressure decreases, pulse rate drops and circulation begins to improve.**

**After eight hours, the carbon monoxide level in blood falls and blood oxygen level returns to normal, and at twenty-four hours the risk of a heart attack due to smoking is already reduced.**

**After just a few days, things begin to smell and taste as they used to and between two weeks and three months lung function increases.**

**In one year, your risk of a heart attack will have fallen to around half that of a smoker and after five years your stroke risk due to smoking will have dropped to that of a non-smoker.**

**The worst of nicotine withdrawal symptoms subside within the first month. Learning about what this is and why it occurs will help you get through it and succeed in giving up.**

A healthy and happy new year

## **INCREASE YOUR ANTIOXIDANTS**

**Antioxidants are substances that enhance immunity and protect cells against the effects of free radicals which are thought to play a part in vascular and heart disease, cancers, arthritis and numerous other diseases.**

They are bi-products of normal metabolism but air pollution, UV radiation, pesticides and cigarette smoke are also major sources of free radical exposure.

Normally our bodies can handle free radicals, but if antioxidants are scarce or if free-radical production becomes excessive, damage to cells can occur. This damage increases as we get older.

Antioxidants are found in many foods, including fruits and

vegetables, nuts and grains, and some meats, poultry and fish.

Adding more fruit and



vegetables of any kind to your diet will improve your health, but some foods are higher in antioxidants than others. The three major

antioxidant vitamins are Vitamin A (or its precursor, beta-carotene), vitamin C, and vitamin E, which are found in colourful fruits and vegetables.

To get the greatest benefits of antioxidants, don't overcook these foods to preserve their antioxidant property.



**TRY A WALK AT LUNCHTIME OR GETTING OFF THE BUS OR TUBE ONE STOP EARLY AND WALKING THE REST OF THE WAY**

► Diet and exercise can both contribute to weight loss, and both have their own challenges.

Milestones are important, so set a series of achievable goals such as losing a pound each week, rather than just saying to yourself 'lose weight'.

One diet that actually offers results that will help you lose weight and increase your cardio-vascular health is the DASH diet.

The DASH diet was developed as a dietary means of controlling blood pressure, but studies have subsequently shown that it is also

beneficial in weight loss and you can devise a plan with a calorie deficit if you want to.

There are lots of ways of using the DASH diet. Books are available, or it is available to follow online and there are versions of it for all dietary needs – vegetarian and vegan, gluten-free, low-salt, Kosher and Halal.

While you are dieting, keep a food journal to keep track of what you eat. It can be important to have support too - someone to give encouragement through the tough times and to offer congratulations when milestones are met.

**TAKE LESS SALT**

**Sodium raises blood pressure and taking less of it in our diets has immediate health benefits.**

**Reducing salt intake involves a lot of reading though; reading of food labels because so much (around 80%) of salt in food is already hidden in processed foods.**

**Having to constantly read food labels may at first seem time consuming and add an extra dimension to shopping, particularly for those of us who use reading glasses, but the extra effort is worth it and these days many shops are making putting larger salt labels on the front of their packaging to make it easier.**

**TAKE UP EXERCISE**

**Apparently, of all the New Year resolutions our doctors would like us to make, this one comes out top.**

Thirty minutes of exercise at least five days a week is recommended to both prevent and help manage high blood pressure, but the hardest part of this can be starting and getting into a routine.

Start with just ten minutes. It needn't involve joining a gym or buying expensive sports gear. A walk at lunchtime or getting off the bus or tube one stop early and walking the rest of the way to your destination is a simple and effective way to start.

There are lots of ways to exercise in the privacy of your own home too these days thanks to games consoles and workout DVDs. You don't even need to buy them; most rental companies stock them these days to hire or watch online.

Just starting some form of exercise could lead to a new found hobby or even a passion and will almost certainly also lead to better health.





# Treatment to lower blood pressure: Synexus is seeking people with high blood pressure for new study

Synexus, the world's largest multinational company dedicated to the successful recruitment and running of clinical studies and one of Blood Pressure UK's corporate partners, has launched a recruitment campaign for a new study which is assessing a treatment which may help lower blood pressure.

## The study may be suitable for those who:

- ✓ Are aged over 18 years old
- ✓ Have or think they may have raised blood pressure

**Synexus is currently recruiting patients for this study at all seven of its Dedicated Clinical Research Centres across the UK.**

**Those who would like to find out more or are interested in participating in this study should call 0845 270 1180 and quote reference code 10812**

There is no obligation for people to participate and if they do decide to take part, their GP will be kept fully informed of their involvement. Patients will be reimbursed for their time and all reasonable out of pocket expenses if they are accepted onto the study.

Synexus has many years experience in conducting a wide range of clinical studies. Each year, thousands of patients take part in clinical studies at Synexus' Dedicated Clinical Research Centres. There are many different studies running at each of the Centres throughout the year including potential treatments for conditions such as osteoporosis, high-cholesterol, insomnia, asthma and childhood eczema as well as for smoking cessation and new vaccines.

Participating in a Synexus clinical study means patients receive increased medical attention and may benefit from medications that aren't yet available to other sufferers of their condition, while making a positive contribution to the health of future generations.



For more information about Synexus and the other studies that it is currently conducting, visit [www.improvinghealth.com](http://www.improvinghealth.com) or [www.bloodpressureuk.org/BloodPressureandyou/Clinicaltrials](http://www.bloodpressureuk.org/BloodPressureandyou/Clinicaltrials)



help us to help you

# Information & publications

We have a range of booklets and fact sheets giving valuable information about living with high blood pressure to help you understand it, lower it and manage it.



## Introducing high blood pressure

This booklet explains what high blood pressure is, who gets it and why. It gives basic information on lifestyle changes to lower blood pressure, and about measuring your own blood pressure at home.



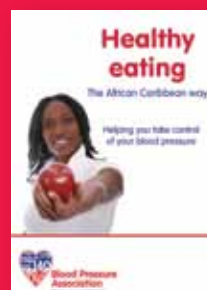
## Measuring your blood pressure at home

This booklet can help you decide whether measuring your blood pressure at home is right for you, and how to choose the right type of monitor. It also gives you tips about how and when to measure your blood pressure to be sure you are getting reliable readings.



## Healthy eating and blood pressure

This booklet looks at how what you eat can affect your blood pressure. It shows you how you can start to eat less salt, and how to get your five daily portions of fruit and vegetables. It also explains how alcohol, fats and sugar can all affect your heart and body.



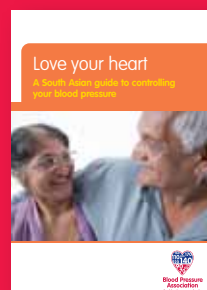
## Healthy eating: the African Caribbean way

People of African Caribbean origin are more likely to develop high blood pressure. This booklet looks at how you can help lower your blood pressure by eating healthily. Traditional African Caribbean cooking can be high in salt and fat, so this booklet looks at how to prepare healthier alternatives.



## Healthy lifestyle and blood pressure

This booklet shows how getting more active and keeping to a healthy weight can help lower your blood pressure. It looks at how you can start to build more activity into your day, and what types of activity may be best for you. It also talks about sensible approaches to losing weight if you need to.



## Love your heart: a South Asian guide to controlling your blood pressure

High blood pressure is a major cause of heart disease and stroke. People of South Asian descent are much more likely to develop these health problems than other people. This booklet looks at how to lower your risk by keeping your blood pressure controlled.



## Getting the most from blood pressure medicines

Most people with high blood pressure will need to take medicines to control it. This booklet talks about the different medicines for high blood pressure and about how you can get the best results from them. It also looks at side effects of blood pressure medicines and what you can do to avoid these.

**Our medicines information sheets provide information for patients about the different blood pressure medications that are used to treat high blood pressure. They are all available to download from our website and titles include:**

- ACE inhibitors.
- Angiotensin receptor blockers (ARBs).
- Calcium channel blockers.
- Diuretics.
- Beta-blockers.
- Non-standard medicines for high blood pressure.



**Blood Pressure UK**

Helping you to lower your blood pressure

All these publications are free to Blood Pressure UK members.

Call **020 8772 4994** for your copy or visit <http://www.bloodpressureuk.org>