

the magazine of Blood Pressure UK

ISSUE 46 > WINTER 2019

POSITIVE

pressure

WHO WERE THE LAST HEROES OF HYPERTENSION?

Professor Gareth Beevers
takes a look back at the
great minds who shaped
blood pressure history

OUR FAVOURITE KNOW YOUR NUMBERS! WEEK YET

Sponsored rows, radio shows and
headlines swept the nation

ANYONE FOR TEA?

The drinks for all seasons
that will help you look after
your numbers

WE FEEL A NEW CAMPAIGN COMING ON

Could combination pills
be the answer for better
blood pressure control?



**Blood Pressure
UK**

Helping you to lower your
blood pressure

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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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Welcome

From Katharine Jenner, Chief Executive Officer

This year two huge problems with the food we eat have made themselves known in such a way that they can no longer be ignored. The first is the damage to the environment, and the second is the damage to our health.

The last six months have seen an avalanche of news stories showing how pressing matters have become. More young adults have high blood pressure than ever, people are having strokes and heart attacks younger, and even the numbers of children with high blood pressure are growing with the rise in obesity.

Globally, we are the first generation more likely to die as a result of lifestyle choices than infectious disease. When food is both what keeps us alive, and what kills us, the food system is broken.

But all is not lost. We've been busy talking to the Department for Environment, Food & Rural Affairs (Defra) about tackling inequalities in access to healthy food. We're standing up for salt reduction as the Department of Health and Social Care develops their plans for disease prevention, and we're getting involved with promoting sustainable and healthy restaurants.

There are many more reasons to be hopeful too. Defra have launched the first ever investigation into, and possible overhaul of, the UK food system in 75 years, pharmacies are taking on a greater role in finding people who don't know they have the pre-cursors to serious illness, and this year's Know Your Numbers! Week was greeted with so much enthusiasm there are clearly huge numbers of individuals and healthcare teams dedicated to the care of their communities.

We hope you enjoy this issue and reading about all that's going on in the blood pressure world. Before you settle down for a read, why don't you make yourself a cup of tea or coffee, which as you will see on page 12, could even help lower your blood pressure.

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If you've enjoyed this magazine but this isn't your own copy, then why not sign up to become a Blood Pressure UK member and have your own *Positive Pressure* delivered direct to your door, together with a host of other members' benefits?

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Out and about

A few things we've been up to lately



A glamorous day out

We went to London's stunning V&A museum for the launch of Queen Mary University of London's 2030 strategy. They presented their plans for progress in medicine and we talked to potential collaborators about our work. We paid a little visit to the Dior exhibition while we were there. Fabulous darling!



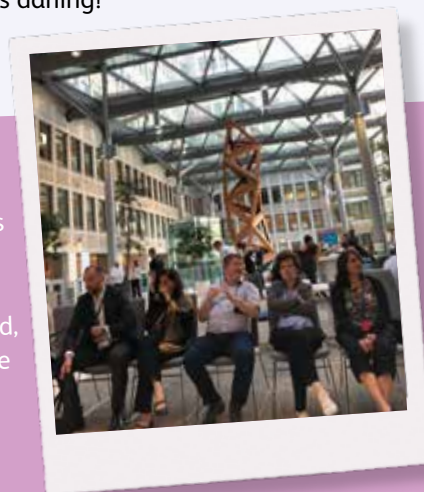
Lessons from the cutting edge

We heard from the experts at the Primary Care Today Issues & Answers conference – the education event of the year for front line health professionals. Our resources were so popular they were all gone by the end of the day. And we may have given out one or two free bp checks.

Legal highs

We had queues of lawyers and legal professionals waiting for a blood pressure check at The Crown Prosecution Service's health and wellbeing event in Westminster this summer. Of the 105 we tested, three quarters had no idea of their blood pressure when they arrived, but a quarter had a reading over 140mmHg. In around half of those it was very high – over 160mmHg.

We were able to encourage them to see their GPs for medical care which they wouldn't have had otherwise, showing how much events like these really work.



A healthy team is a happy team

We gave free pressure checks and health advice to the enthusiastic and youthful team at talent consultancy GatenbySanderson in London. They find leaders for public services and not for profits and we were very happy to support their Mental Health Week.

ONE OF OUR FAVOURITE KNOW YOUR NUMBERS! WEEKS YET

Our flagship campaign is always a high point, but the support and enthusiasm this year really took us aback. There were news headlines, twitter storms, half a million visitors to our website and of course, a whole lot of blood pressure checks (page 10).



EXERCISING OUR BRAINS AT THE BIHS ANNUAL SCIENTIFIC MEETING

There were lots of interesting updates at this year's British and Irish Hypertension Society (BIHS) meeting, and the evening reception was a fun affair. We hosted a stand, and the Nurses Allied Health Professionals Working Party celebrated 10 years of joining the BIHS. The celebratory mug they gave us has pride of place in our office.



In conversation with Defra

Our CEO Katharine spoke on a panel at the Department for Environment, Food & Rural Affairs in September about their National Food Strategy (page 8). She gave an impassioned speech on how the unhealthy foods we're surrounded by are ruining our health, and how lowering fat, salt and sugar in food is the most effective way to improve it.

Blood Pressure News

NEWS

GOVERNMENT PLANS TO PREVENT DISEASE NEED TO TAKE A HARDER LINE

We're fighting for stronger commitments in preventing unnecessary deaths and disability

The Department of Health and Social Care (DHSC) have put together a new Green Paper detailing how it plans to prevent diseases of the heart and blood vessels, shifting the focus of health care to prevention rather than cure. But there is a widespread view among health professionals and charities that they're missing an opportunity to go so much further.

This paper, *Advancing our Health, Prevention in the 2020s*, includes many positive steps, like more support for quitting smoking and alcohol, and launching a prevention programme at work, among many more. The problem is, these changes



are not enough to tackle widening health inequalities, obesity, high blood pressure, and the worsening health of children and young people.

We fed back our views on the draft paper, which is now being finalised:



The new NICE guidelines are finalised, and don't go far enough

New recommendations for health professionals don't make enough progress in tacking high blood pressure

In the Summer issue of *Positive Pressure*, we let you know that the National Institute for Health and Care Excellence (NICE) had released a draft of their updated guidelines for health professionals diagnosing and treating high blood pressure. They included only a modest change to treatment guidelines from the 2011 version, suggesting doctors consider medicines for people with a 10% risk of serious illness in the next ten years instead of a 20% risk.

The idea is sensible enough, making treatments available sooner rather than later for people with blood pressure over 140/90mmHg. But in practice it's unlikely to make any real difference as GPs already consider multiple factors in deciding when to offer medicines.

There was also little emphasis on home monitoring, despite strong evidence that it helps to control blood pressure.

We fed back our view that the guidelines need to go further, but unfortunately, NICE didn't change their recommendation in the final version, published this August.



With options like home monitoring, using combination pills (page 9) or a lower target blood pressure of 130/80mmHg, there were opportunities for real progress that have been missed to support the huge numbers who don't have their blood pressure under control.

1 WE NEED A RENEWED FOCUS ON SALT REDUCTION

Salt reduction is a cost-effective and simple way to improve health and has been very successful in the past. The Government have set targets for food manufacturers to lower the amount of salt they add to food. But, there seems to be a lack of interest from manufacturers in meeting them, and from the Government in enforcing them. So, the strategy must evolve to:

- educate the public
- be monitored independently rather than by the businesses themselves
- improve food labelling
- bring the out of home sector on board.

2 NHS HEALTH CHECKS NEED MORE FOCUS ON PREVENTION

Health Checks for 40-74-year olds should be done with a stronger focus on prevention, so that even people who are healthy at the time receive healthy living advice. The age range should also be extended beyond 74 so that everyone has access to encouragement and support.

3 WE NEED MORE EDUCATION FOR HEALTH PROFESSIONALS

Doctors receive an average of six hours of nutrition education in medical school, but we feel it should be longer so that they can give evidence-based advice to patients, and easily judge when to refer on to a dietitian.

OUR CAMPAIGNING MEANT POTASSIUM SALTS WERE ADDED BACK IN TO THE NICE GUIDELINES

There is some good news. The draft guidelines removed the recommendation that 'salt made of potassium chloride instead of sodium chloride could be used to lower salt intakes and lower blood pressure'. But there was no clear reason why.

Potassium salt tastes similar to regular salt, but because it doesn't contain sodium, it doesn't raise your blood pressure. What's more, it raises your potassium intake which is good for blood pressure, and people don't currently eat enough.

There wasn't a clear reason to exclude potassium salts from the guidelines and the decision seemed to be based on unfounded worries about health risks. But, in 2017 the experts at the Scientific

Advisory Committee on Nutrition (SACN) and the Committee on Toxicity (COT) found that potassium salts are a safe alternative to regular salt and a good way to lower salt intakes.

Replacing just 15-25% of regular salt in food with potassium salt would prevent an estimated 3,200 strokes per year. So, we fed back that it was essential that NICE add them back in. And they did!

NICE have added a caveat that older people and pregnant women shouldn't use potassium chloride salt based on concerns about health risks, but we are keen to point out that SACN and COT didn't highlight any health risks for these groups.

Does potassium chloride need a name change?

Tell us your opinion

Potassium chloride is a safe alternative to regular salt, so it's ideal to use at home, in restaurants and in pre-made products.

But groups in the US have discovered a problem – people don't know what 'chloride' means and find it chemical-sounding, alarming and confusing. So, they're campaigning for the Food and Drug Administration (FDA) to change the name from potassium chloride or even potassium chloride salt to simply potassium salt.

Both food manufacturers and health advocates support the change, aiming to help people switch to the healthier alternative. And we agree.

What's your view?

We'd love to know. Email info@bloodpressureuk.org or call us on 020 7882 6255

Salt is just a chemical too

Imagine if salt products were called by their chemical name...




Addicted to salt

New survey reveals Brits are so addicted to salt, we even add it to takeaways



A new survey of 2,000 people by LoSalt has shown the extent of the UK's taste for salt, and how little people know about its link with blood pressure. The results were pretty shocking:

- **Eight out of ten add salt to their food while cooking or at the table**, a clear sign that we're still addicted to salt.
- **Almost a third (29%) don't understand why salty food is harmful**, and that it's the biggest cause of high blood pressure, despite national campaigns to raise awareness.
- **One in eight add salt to microwave meals and takeaways**, even though some takeaways already contain more than a day's worth.
- **People believe they eat just 3.2g of salt a day, but the average is more like 8g**, well over the healthy target of **less than 6g**. This shows how hard it is to know how much salt you're eating.
- **Almost half (44%) said they wouldn't stop using salt regardless of the consequences for health**. More worrying than the lack of knowledge was that many just don't seem to care.

 *If salt intake fell by a third it would prevent 8,000 premature deaths and save the NHS over £500 million each year. This survey shows just how much work there is still to do.*

WELL DONE HEINZ

Congratulations to Heinz for their No Salt Added Tomato Ketchup. It contains 96% less sodium than regular ketchup AND it tastes good. We're impressed.



THE SALTY PRODUCTS LURKING IN YOUR CUPBOARDS

New surveys have revealed yet more blood pressure-raising foods

MEAT ALTERNATIVES We're in favour of eating less and better meat and more veggie food – for health and the environment – but unfortunately many meat-alternatives aren't yet in the healthy category.

Meat-free burgers contain more salt than meat burgers on average, while all meat-imitation products – ham, kiev, mince, sausages, you name it – had more salt than their maximum salt target, even Greggs famous vegan sausage roll. Disappointing.



PICNIC FOOD Whether you're having a winter buffet or a summer picnic, a selection of savoury snacks can easily take you over the 6g a day maximum for salt. A portion of olives can contain nearly 2g, Cornish pasties can contain nearly 3g, and pork pies, sausage rolls and savoury eggs will all add up.

PANCAKES, WAFFLES, PRETZELS, CREPES When you buy these foods out of home they can contain more salt than a McDonalds! One cheese crepe contained more salt than three Big Macs, with an unbelievable 8.5g of salt.

So, what do these European batter-based delights have in common? They're all full of salt, sugar and fat. Eat like the French and only have a little.

TABLE SAUCES, ASIAN SAUCES AND MARINADES Asian sauces always tend to be salty, but they might be worse than you think. Fish sauce can contain 4g in just one tablespoon and soy sauce can contain almost 3g.

Marinades like Piri Piri and staples like tomato ketchup, mayonnaise and brown sauce can also be a problem, around half would get a red traffic light label for salt. Worst of all, some have even been getting saltier.

GET SALT SWITCH

Get the SaltSwitch app on your phone to scan in products and find healthier alternatives while you shop. Now with lots more products in the database.





High blood pressure now affects children and young people

High blood pressure is no longer something that only affects older adults

Now even kids have high blood pressure

As many as one in twenty (5%) children around the world aged 19 and under have high blood pressure, and another tenth (9.7%) have pre-high blood pressure, according to a major new review by Oxford University. The numbers doubled between 2000 and 2015, rising with the obesity epidemic.

High blood pressure on the rise in young adults

A study of 140,000 people by LloydsPharmacy found that a staggering two thirds (66%) of under 35s have high or pre-high blood pressure, and a third (35%) have above average or high cholesterol.

Heart attacks and strokes becoming more common at a younger age

There has been a 4% rise in deaths from diseases such as stroke and heart disease in the under 65s in the last five years, according to new research from the BHF.

Blood pressure in young adulthood determines health in later life

It was already known that blood pressure in midlife in part dictates your health later on. Now, US researchers have shown that raised numbers from age 18 to 39 are also linked to a higher risk of heart disease, heart failure and stroke in older age.

High blood pressure early on linked to poorer brain health

A study in *Lancet Neurology* found that raised blood pressure during your 30s and 40s was linked to smaller brain size. This does not prove a link with dementia, but the link is plausible and is being explored.



Is bedtime the best time to take your blood pressure medicines?

A major new study shows that taking blood pressure medicines at night could halve the risk of heart disease and strokes

Growing evidence shows that many different drugs might work better if taken at specific times of day. Experts believe this is because our biological clock, or natural 24-hour rhythm, affects the ways our bodies respond to them. It was often assumed that blood pressure tablets were best taken in the morning, as blood pressure is higher during the day than at night. Now, a new trial of 19,000 people in Spain has found that those who took their pills at night had lower average blood pressure during the day than at night (and you might be more likely to remember to take them in the morning!), and half the risk of a heart attack, stroke or heart failure over the next five or more years, compared to people who took their pills in the morning.



The most important thing is to take your blood pressure medicines as prescribed, so speak to your doctor if you're having trouble. Then, if it fits your daily routine, why not try taking them at night and use a home blood pressure monitor to see if it makes a difference for you?



Your blood pressure and cholesterol numbers matter throughout your whole life, and families need education so that young people can develop healthy habits. The Government's current Childhood Obesity Plan does nothing to address this and needs to be reviewed straight away. At the same time, there's lots of evidence showing that healthy lifestyle changes have a positive effect no matter what your age. So, don't be put off, it's never too late to start.

Get your SLEEP ON

Could a quick nap lower your blood pressure?

A new study in Switzerland has suggested that napping twice a week



for between five minutes and an hour could improve heart health. In a study of 3,262 people, those who napped once or twice a week had around half (48%) the risk of heart attack, stroke or heart failure over five years than those who didn't nap at all.

Interestingly, the more people napped above this, the more likely they

were to have serious heart problems. But the authors think this is probably because other health problems were making them feel tired, rather than that napping caused ill health.

The authors said: "While there remain more questions than answers, it is time to start unveiling the power of naps for a supercharged heart."



This study isn't strong enough to show if siestas can affect your heart health, but we're happy to make the excuse for a quick snooze. We also know that good sleep at night will do wonders for your well-being. Visit www.nhs.uk/live-well for advice on getting a good night's sleep.

HEART HEALTH ON THE HIGH STREET

Pharmacies take on a bigger role in preventing illness

High street pharmacies have started offering free health checks to customers as part of a new £13 billion plan from NHS England to prevent diseases like heart attacks and strokes.

320 pharmacies are taking part in the plan, launched on October 1, offering checks for blood pressure, cholesterol and irregular heartbeat. The aim is to reach people at risk of illness before any problems develop, giving them the chance to get lifestyle advice and medicines earlier on.

If successful, the checks will be rolled out to all UK pharmacies over the next three years.

Pharmacies are perfectly placed to give health checks because they can reach people who wouldn't normally go to the doctor unless they have to.



FOOD PRODUCTION IN THE UK GETS A HEALTH CHECK

The National Food Strategy is launched to make food production sustainable, fair and healthy, from field to fork.

For the first time in 75 years, the entire food system is being investigated to see how cost-effective, robust and healthy it is. The aim is to find out what's working, and what's not, so that changes can be made for a sustainable future.

The project, launched this summer, is being led by Defra (Department for Environment, Food & Rural Affairs) and headed up by Henry Dimbleby (pictured), co-founder of restaurant chain

Leon and the Sustainable Restaurant Association.

His recommendations will be published next year, aiming to make food healthy and affordable for everyone, and make sure food production contributes to well paid jobs, fair economies, and enhances the natural environment.



The strategy should benefit everyone no matter their income or postcode, while protecting the environment and improving health. We look forward to an innovative and bold new strategy that incorporates our suggestions.



WINTER APPEAL



This Winter, can you help us to keep giving much-needed support to people with high blood pressure?

Our hypertension nurse Nirmala has become a well-known voice to many of our members, providing an invaluable service for people concerned about their blood pressure. Whether they don't have enough support locally, or just need to hear a reassuring voice, it's important that they have someone to speak to for independent trusted advice and guidance.

To keep our helpline service running is always a challenge, so, this Winter we are asking if you would consider making a donation. Your support can make a real difference and is very much appreciated.

THERE ARE MANY WAYS TO GIVE

- **Online:** visit www.bloodpressureuk.org
- **By phone:** Call 020 7882 6255
- **By post:** Send a cheque to 'Blood Pressure UK', postal order or charity voucher to the Freepost address on the inside front cover.

"I can't thank you enough"

The difference a phone call makes

"I can't thank you enough for taking the time and the trouble to answer all my questions and for sending me all the information which has helped so much."

"It was a pleasure talking to you. You gave me good advice and, most of all, confidence."

"I understand much more about the condition now and how the various blood pressure conditions work."

"You were very helpful and I appreciate your kindness."

"Thanks for talking to me yesterday. You were a big help and I'm feeling less anxious. Anxiety is a bad thing to have with regards to your body. Once you get that under control everything else settles."

"Thank you so much for that great information. It has guided me through – I have registered in a zumba class and I'm walking a lot so I hope this will help me."

WHY AREN'T COMBINATION PILLS USED MORE?

Combining blood pressure medicines into a single tablet has been shown to help people stick to their medicines, control their blood pressure, and lower their risk of heart attacks and strokes. They're used around the world but are hardly used in the UK. We want to find out why.

One of the biggest challenges to keeping blood pressure under control is taking medicines as prescribed. It's very common to need more than one medicine, and research shows the more medicines people have to take, the less likely they are to take them.

But skipping medicines comes at a high price. Without taking them every day, high blood pressure stays high. In the long run, the results can be catastrophic, including heart failure, heart attacks and strokes.

But there is a solution. There are tablets available which combine multiple medicines into one tablet. There are various combinations and doses available, they're inexpensive, and they've been shown to improve compliance and blood pressure control.

Why we need a Blood Pressure UK campaign

Combination tablets aren't often used in the UK, even though they are common throughout the rest of the world. The European Hypertension Society Guidelines and the US equivalent both recommend them as the first line drug treatment for high blood pressure. The National Institute for Health and Care Excellence (NICE) recently updated their UK blood pressure guidelines and don't mention

combination pills. We feel they have missed a trick – it's time to bring them into use.

Time to investigate

We're going to find out why these tablets aren't used in the UK. Once we've got an answer we'll be a step closer to bringing them into use. Watch this space.



KNOW YOUR NUMBERS! WEEK

We had so much support for this year's campaign we almost couldn't believe it

2019



KNOW YOUR NUMBERS! ❤️



Making headlines

This year our theme was Live well for longer – as many people are now able to live such long lives, but not necessarily in good health.

If the 6 million people in the UK who don't know their numbers got tested, this could save 230,000 people from disease and £120m for the NHS and social care system over the next 20 years.

The only way to Know Your Numbers! is to get a blood pressure test. That's why, every year, we do everything we can to reach those who don't know theirs.

This year we made radio appearances, news headlines, and even featured on Arsenal football club's website. But the most important events were the pop-up venues we call Pressure Stations, offering free blood pressure checks to passers-by.

A week of free blood pressure checks

To all the pharmacies, PHE teams, CCG's, NHS Trusts, libraries, shopping centres and places of worship who took part, we can't say 'thank you' enough.



Lowering the salt at wholesale food giant, Bidfood

LoSalt got the week got off to a flying start at Bidfood's well-being event. As one of the largest wholesalers in the UK, supplying hospitals, hotels, schools, pubs and restaurants, they are ideally placed to lower salt in food.

LoSalt explained the benefits of less salt for blood pressure, and we gave free blood pressure checks to staff.





We featured on Arsenal FC's website

We featured on the Arsenal Football Club page of gladiatorfootball.co.uk with information about our campaign. The promotion is helping us to reach more young people and more men, who can be less engaged when it comes to health.

Making a difference, saving lives

Chippenham Pit Stop service station on the M4 summed up perfectly just how these events make a difference.

"We had the pleasure of seeing a young man in his 20's who had unbelievably high blood pressure this time last year. The check shocked him into action – he signed up for a healthy living course, gave up smoking, hugely reduced a drinking habit and sought help with mental health issues. He has done a cookery course and is now seeking employment.

"He said that the fact we had taken his blood pressure and made him realise the harm he was causing had given him a future. His Dad was with him and the whole family has got behind him, and other members have given up smoking – so the snowball grows!!"

We trended on twitter for the third year in a row

There were so many enthusiastic and informative tweets about #KnowYourNumbers, they reached an unbelievable 52.8K people!

NHS England, NHS UK, Stroke Association, ME Association and Public Health England's prevention lead Professor Jamie Waterall all got behind us, to name just a few. We especially loved Barts Health Archives and Museums tweet about their antique sphygmomanometer.



KNOW YOUR NUMBERS!



Making (radio) waves

Our CEO Katharine Jenner joined veteran presenter Eamonn Holmes – who lives with high blood pressure – for a delightful interview at talkRADIO. They discussed why the week is so important and how to look after your blood pressure – including Eamonn's daily dose of beetroot!



Hemini Bharadia, our Marketing Manager, says:

"With many of us living well into our 70s, 80s and 90s, we want these years to be healthy and happy for everyone. Thank you for helping us in our efforts to make it a reality".

Half a million people viewed our website

Our blood pressure chart was a favourite as ever.

A sunrise row on the River Thames

Cheval Collection teamed up with Milo And The Bull boutique rowing studio, and nutrition and lifestyle expert Emma Broome of LIFE Acrobat, to host a sponsored rowing challenge to raise money and awareness for us. With two WaterRower machines on the terrace of one of their luxury residences on the Thames, the staff and residents rowed a massive 56km at sunrise. Idyllic.



A woman with voluminous, curly brown hair is smiling warmly at the camera. She is wearing a light-colored, textured cardigan over a grey top. She holds a light-colored ceramic mug in her right hand. The background is softly blurred, suggesting an indoor setting like a cafe or kitchen.

Fancy a cuppa?

When it comes to looking after your blood pressure, you've probably had quite a few conversations about what to eat. But did you know that what you drink can have an effect as well?

None of these healthy drinks are to replace your medicines of course, and the evidence isn't strong enough to make any really confident claims. But they won't do any harm and might even help. So, put the kettle on, put your feet up, and take a look at these natural wonders to sip at tea time – plus a few that are best avoided.



Tea (good old regular black and green tea)

The great British cuppa is more than a comforting brew

Camellia sinensis, more commonly known as 'tea', is the most consumed drink in the world after water. And some research suggests that people who drink around three cups a day have a lower risk of developing high blood pressure.

One large review found that in the short term, tea had no effect on blood pressure, but after drinking it daily for three months, it did, lowering systolic blood pressure by 2mmHg. Green tea had an even bigger effect.

The effect is thought to be due to polyphenols making nitric oxide (a chemical found naturally in your blood vessels) more active, allowing your blood vessel walls to relax – it's the same chemical that's involved with beetroot juice.

Tea has other benefits as well. One small study found that a week of tea-drinking boosted blood vessel health, making them less stiff. Even one cup of a day was enough to relax blood vessels.

Another small study of people with high blood pressure showed that six months of regular tea drinking reduced potentially-harmful night-time variations in blood pressure.

WHY NOT TRY: Drinking up to four cups of regular black tea daily with a splash of milk and no sugar. Green tea is also a good choice.



Above: Our Editor Kay Dilley posing with her hibiscus tea: "not only is it pretty and delicious, it could be helping with my blood pressure too".

Hibiscus tea The colourful tea that is pretty good for you

The leaves and flowers of *Hibiscus sabdariffa* are rich in plant chemicals, called polyphenols, so they have many potential uses in medicine. From the Bedouins in Jordan to the herbalists of Iraq, healers in at least 10 countries use hibiscus tea to prevent heart disease.

Several small studies appear to back up the effects, showing that hibiscus tea can lower blood pressure by up to 7.5mmHg systolic and 3.5mmHg diastolic. Others suggest an effect on blood fats too. This dual effect is potentially very important, as high blood pressure and high blood fats together cause fat to be laid down in the artery walls, leading to disease of the heart and blood vessels.

These studies were small and short term, so it's a promising

area for research, but too early to make any firm recommendations. However, the tea doesn't seem to have any side effects, except at very high doses, so it's safe to drink regularly.

WHY NOT TRY: A cup a day, if you enjoy hibiscus tea. Why not use a home blood pressure monitor to see if it has any effect on your blood pressure?



Beetroot juice

The natural world's blood pressure medicine?

Beetroots are rich in chemicals called nitrates which have been known for a long time to lower blood pressure. They're converted into a gas called nitric oxide in the blood which allows your blood vessel walls to relax.

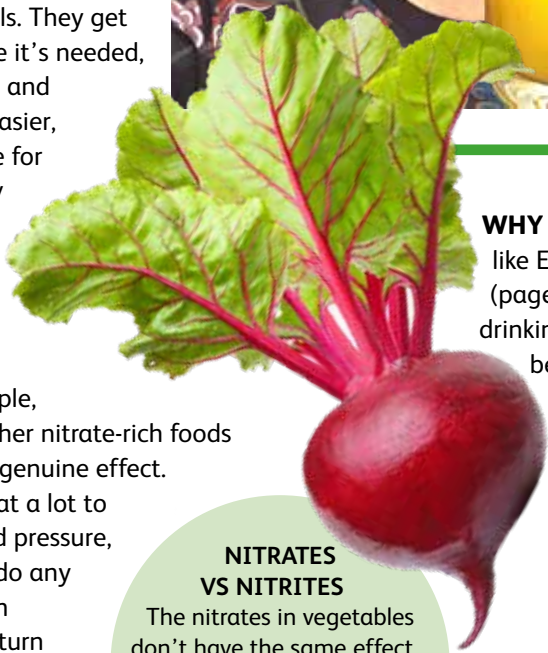
Other foods contain nitrates too – green leafy veg like kale, celery, cabbage, lettuce, rocket, spinach, watercress and parsley.

Nitrates don't last very long in the body, so it's good to have a daily dose.

Lots of small studies have shown that adding nitrates to the diet can lower blood pressure by around 4.5mmHg systolic (the top number) and 1.1mmHg or more diastolic (the bottom number).

Nitrates appear to have other effects too. They've been shown to improve performance in athletes, and the same effects could make a major difference to people with diseases of the heart and blood vessels. They get oxygen to where it's needed, making exercise and moving about easier, you can exercise for longer, and they reduce pain.

Even though the studies are all quite short and in small numbers of people, beetroot and other nitrate-rich foods seem to have a genuine effect. You'd have to eat a lot to lower your blood pressure, but they won't do any harm – although beetroot might turn your wee red.



NITRATES VS NITRITES
The nitrates in vegetables don't have the same effect as the cancer-causing nitrites in bacon and meat cooked at high temperatures.

100% orange juice More than vitamin C

Oranges are known for their high vitamin C content which is essential for good health. They also contain other nutrients which evidence shows help to look after your blood pressure – hesperidin and potassium.

The European Food Safety Authority say that potassium is proven to support normal blood pressure, and one glass of orange juice contains more than a tenth of your daily potassium.

The other nutrient, hesperidin, is a plant compound found mainly in the white pith of oranges. When oranges are squeezed, some of the hesperidin makes its way into the juice.

A large review of fruit juice studies found that drinking pure orange juice regularly lowered diastolic blood pressure by 2mmHg. It appears to improve the health of small blood vessels and how well they work too, along with other drinks made with hesperidin.

In one trial, overweight men were given 500ml of 100% orange juice a day for four weeks. At the end of the trial, they had lower diastolic blood pressure and improvements in how well their blood vessels contracted and relaxed. The researchers believe that this was due to the combination of hesperidin and potassium in the orange juice – since a dummy drink fortified with only hesperidin also reduced blood pressure, but to a lesser degree.

WHY NOT TRY: A daily small 150ml glass of 100% orange juice with a meal (to protect your teeth), which will count as one of your 5-a-day of fruit and veg. Make sure that you also eat plenty of whole fruits and vegetables to reach your 5-a-day.

Dr Carrie Ruxton, registered dietitian, enjoying a glass of pure orange juice.



WHY NOT TRY: Being like Eamonn Holmes (page 11) and drinking a glass of beetroot juice a day, and eat lots of green leafy veg.

Coffee Your morning-pick-me up won't do you any harm, and might even do some good

Given that coffee is the most consumed drink in the world after water and tea, and contains hundreds of active compounds, it's been a big area of interest for researchers. They've consistently found that coffee doesn't raise your blood pressure in



the long term, in fact, it might even lower it and protect your heart health.

One recent review including 240,000 people found that each cup of coffee per day lowered the risk of high blood pressure by 2%. Other reviews aren't quite so enthusiastic but still showed that coffee is safe to drink, appears to help with blood pressure, and has benefits for heart problems such as coronary artery disease and heart failure.

There is one proviso. Coffee contains caffeine, so it's a stimulant. Sometimes people even refer to it as a drug. Caffeine raises your blood pressure in the short term (although the effect wears off within about three hours) and can cause other problems like poor sleep and headaches.

WHY NOT TRY: Enjoying your morning coffee, just don't go over about four cups of medium-strength coffee a day. Avoid very strong coffee in large amounts, especially if your high blood pressure isn't well controlled. And especially near bedtime if it keeps you awake!

Don't feel like you need to drink everything we cover here every day, that would be a lot of tea and coffee! Why not use your home monitor to see if any of these drinks make a difference for you, and let us know!?

Drink water too so you're not relying on tea and coffee for all your liquids. And don't use these drinks to replace the medicines you're prescribed.

Liquorice tea Sweet to taste, but BAD for blood pressure

Liquorice comes from the root of a plant called *Glycyrrhiza glabra L.* and you may know it for its flavour in sweets and tea. It's also been used in Chinese and Japanese medicine for thousands of years because of its supposed anti-inflammatory and anti-oxidant effects, treating all sorts of ailments from coughs to liver disease.

The sweet flavour of liquorice comes from a chemical called glycyrrhizin, but this chemical has another surprising effect – it can push up your blood pressure. It affects a group of hormones which control the amount of fluid in your

body. Too much of it will make you hold onto water – raising your blood pressure and causing swelling.

Some people seem to be more sensitive to glycyrrhizin than others so it raises their blood pressure higher. There are examples of people drinking lots of liquorice tea, thinking it was a healthy choice, whose blood pressure rose dangerously high. Products high in glycyrrhizin are even required to carry a warning for people with high blood pressure.

The European Scientific Committee on Food recommend an upper safe limit of 100mg of glycyrrhizin per day. That's exactly the amount that's in many liquorice flavour teas – typically 50-100mg.

AVOID LIQUORICE TEA: It raises your blood pressure no matter what it is to start with so it's safest to steer clear.

Alcohol It's the amount that counts

There's good news and bad news when it comes to alcohol. The good news is that around a glass a day doesn't seem to do any harm. There are some reports that it could even do some good for your heart health (although this is quite controversial and certainly not grounds to start drinking if you don't already).

On the other hand, drinking larger amounts over a long time will raise your blood pressure. Heavy drinking in particular is a problem and causes other illnesses including irregular heart beat, stroke, liver and stomach problems, and

ultimately can be fatal.

Encouragingly, a recent review found that when people who drink two or more drinks per day cut back, their blood pressure fell. The effect was strongest for people who drank six or more drinks per day. When they cut back by about half, their blood pressure fell by 5.5mmHg systolic and 4mmHg diastolic.

The researchers estimated that if half of the people in the UK who drink more than two drinks per day cut down to one drink, the number of people with high blood pressure would fall by 4.4% for men and

1.2% for women. This might not sound like a lot, but would save about 700 lives per year and over 7,000 hospitalisations.

AVOID TOO MUCH ALCOHOL: Don't feel you need to cut alcohol out altogether, just stick within the recommended limits of 14 units per week (for both men and women), have some alcohol free days, and don't drink more than six units in six hours. There's some evidence that red wine is a better choice than other drinks, although it's not conclusive.

Get lots of tips for cutting down on alcohol from www.nhs.uk/live-well

The HEROES of hypertension

PART 2

The premature death of Frederick Akhbar Mahomed in 1884 perhaps marks the end of an era in our understanding of high blood pressure. He developed the precursor to blood pressure monitors, and was the first person to identify essential hypertension, the most common type of high blood pressure.

There could be no more advances until the development of a simple and reliable method of blood pressure measurement.

In this second article, Professor Gareth Beever takes us into the modern era with the invention of the mercury manometer. And for this we have to travel to Turin.

See our summer issue for part 1

Dr Scipione Riva-Rocci, 1863-1937

Many attempts were made during the late 19th century to find an accurate way to measure blood pressure but most were wildly impractical. The solution was eventually found in Turin by Dr Scipione Riva-Rocci.

Riva-Rocci devised an air-filled cuff that could be placed around the upper arm. This was attached by a rubber tube to a small bottle (originally an old ink bottle) half filled with mercury, attached to a glass column. A second rubber tube from the cuff was attached to a rubber inflation pump.

By squeezing the pump, the pressure in the cuff could be raised until it stopped the blood flow through the arm, and the pulse at the wrist could no longer be felt. The pressure in the cuff was then slowly reduced until the pulse could be felt again.

This moment, when the pulse returned, was the highest point of the pulse wave, namely the systolic pressure (the top number in your blood pressure reading). This is the moment your heart beats.

The pressure could be read by the height of the mercury in the glass tube. That's why blood pressure is measured in millimetres of mercury.

The whole procedure took no longer than 20 seconds and was easy to repeat. This was the first practicable sphygmomanometer. Riva-Rocci published a description of his apparatus in 1896.

For the first time, there was a simple way to measure blood pressure. It is possible that this invention would not have received much attention but for the support of the famous neurosurgeon, Harvey Cushing from Johns Hopkins Hospital, Baltimore (see *Positive Pressure*, Winter 2018). Cushing visited Riva-Rocci in 1901, sketched the apparatus and arranged for it to be made at Hopkins.

Over the following years, improved Riva-Rocci manometers became standard around the world until the development of electronic machines almost a hundred years later.



Professor Riva-Rocci, who developed the first simple way to measure blood pressure.

Image from Gazzetta Medica di Torino n° 47 (1896). With thanks to the University of Turin.



Riva-Rocci's sphygmomanometer in use.

With thanks to the Wellcome Collection.

Dr Nikolai Sergeyevich Korotkov, 1874-1920

Our next hero was almost forgotten until medical historians discovered the only surviving photograph of him in the archives of the medical faculty of Moscow University and published his biography.

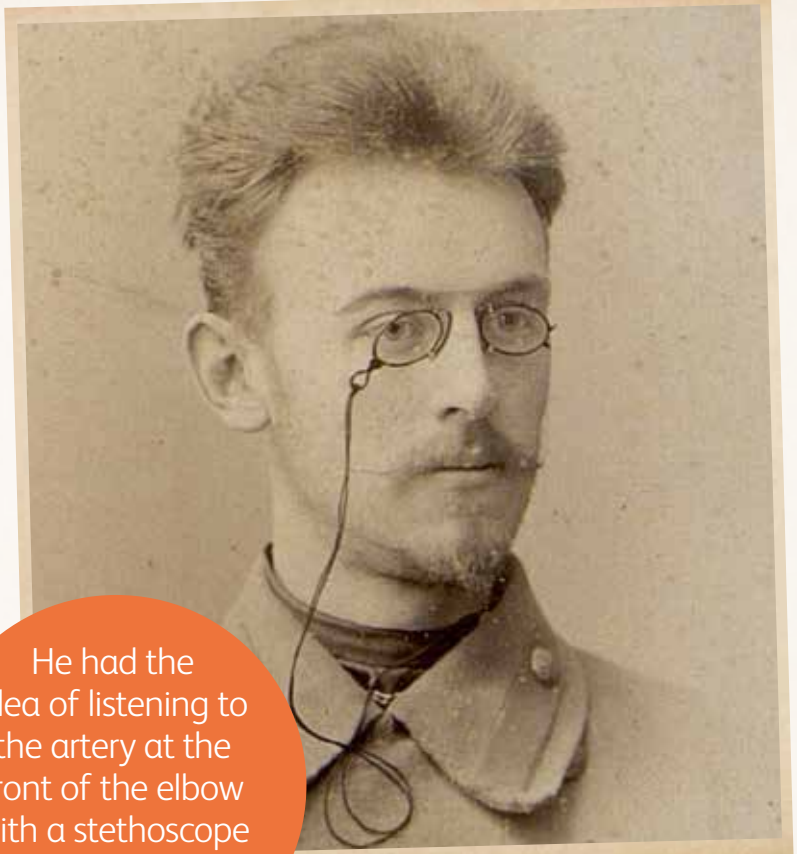
A Russian army surgeon, who served during the Russo-Japanese war of 1904, Korotkov will have seen many injuries with severely damaged arteries. When he returned to St Petersburg, he used the Riva-Rocci apparatus to measure systolic pressure.

He had the idea of listening to the artery at the front of the elbow with a stethoscope as the cuff deflated. He found that when the pulse became detectable at the wrist, he could hear turbulence sounds below the cuff, so he could measure systolic blood pressure by listening for the turbulence and noting the height of the mercury in the tube.

He found that the turbulence sounds persisted as the cuff deflated further, then disappeared. He concluded that this disappearance must coincide with the diastolic pressure (the bottom number) where pressure is lowest between heart beats.

From now on, both systolic and diastolic blood pressure could be measured easily. He published his findings in 1905 in the Proceedings of the Emperor's Military Medical Academy, St Petersburg.

He had the idea of listening to the artery at the front of the elbow with a stethoscope as the cuff deflated.



*Dr Nikolai Korotkov as a medical student.
With thanks to the Faculty of Basic Medicine,
Moscow State University.*

Robert Tigerstedt, 1853-1923

While early blood pressure monitors were evolving, so too was the understanding of how kidney diseases raise blood pressure.

The turning point was the discovery of renin by Robert Tigerstedt in 1897. Renin is an enzyme produced by the kidneys which leads to the generation of the hormone angiotensin. This hormone is a powerful constrictor of blood vessels. Thus, renin and angiotensin raise blood pressure.

The significance of Tigerstedt's discovery was under-recognised until the 1960s when drugs were created to block the production or effects of angiotensin. These drugs are now the mainstay of the treatment of high blood pressure and heart failure.

*A painting of Tigerstedt who discovered the enzyme renin, by A Edelfeldt.
With thanks to Ulf Sirborn, Karolinska Institutet.*

Sir Willian Osler FRS, 1849-1919

For the next of our heroes, we must turn to Canadian physician William Osler, one of the most admired physicians in his day.

Osler co-founded Johns Hopkins Hospital with his friend Cushing, among others, and was the first to bring medical students out of the classroom to the bedside for clinical training. In 1892 he published his magnum opus, *The Principles and Practice of Internal Medicine*, which was widely regarded as the most authoritative medical textbook in the world.

In his first edition there is no mention of high blood pressure, or even of blood pressure. This is unsurprising as there was, at the time, no method for measuring it in clinical practice. But in 1913, now professor of medicine at Oxford, he published his findings on hypertension, its causes and consequences, based on his extensive clinical experience.

Osler classified patients with raised systolic blood pressure in three

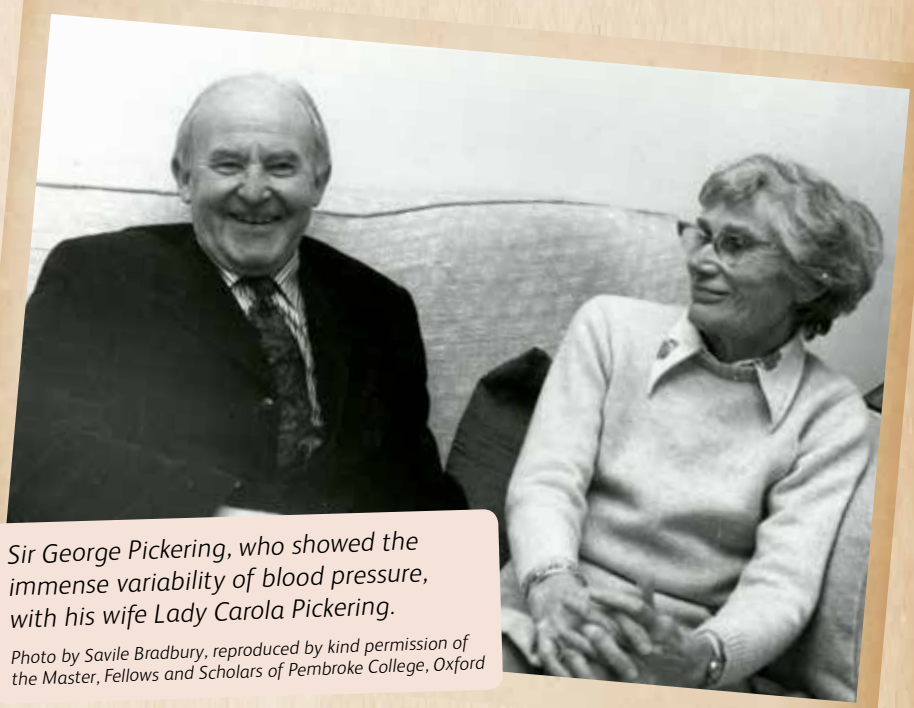


groups: those who had clear evidence of kidney disease; those who already had evidence of heart involvement, having suffered from what we would now call “end-organ damage” due to a heart attack or stroke; finally, those with raised pressure but no other abnormalities. There is no mention of diastolic pressure so he had probably not seen Korotkov’s paper of 1905.

Osler had come up with a way to classify hypertension, but in those days there was little the clinician could do about it. There were no antihypertensive drugs.

Osler had come up with a way to classify hypertension, but in those days there was little the clinician could do about it. There were no antihypertensive drugs.

Sir William Osler, a revered physician who was the first to classify hypertension
 Painting by Kanak, 1914.
 With thanks to the Wellcome Collection.



Sir George Pickering, who showed the immense variability of blood pressure, with his wife Lady Carola Pickering.
 Photo by Savile Bradbury, reproduced by kind permission of the Master, Fellows and Scholars of Pembroke College, Oxford

Sir George Pickering FRS, 1904-1980

In the 1950s information was becoming available on blood pressure in large numbers of people, largely from American life insurance companies. At this time, George Pickering was the professor of medicine at St Mary’s Hospital, London, and later at Oxford in the professorship previously held by Osler.

When looking at large numbers of individuals, it was clear that the risk of developing a heart attack or stroke was closely related to rising blood pressure, even if it not particularly high. Pickering realised that it was difficult to define a point where “normotension” becomes hypertension. There was no defining line between healthy and high blood pressure.

He poured derision on “experts” who declared that hypertension began at some particular arbitrary pressure level; say 140 or 160 mm mercury. At the time this was revolutionary thinking. Most clinicians tended to ask themselves or their trembling students the question “*Has he or has he not got hypertension!?*”

Professor Geoffrey Rose wrote: “*I well remember the widespread bafflement which greeted this famous professor of medicine when he asserted that hypertension, in which he was the world expert, did not exist as a distinguishable entity.*”

Pickering also drew attention to the

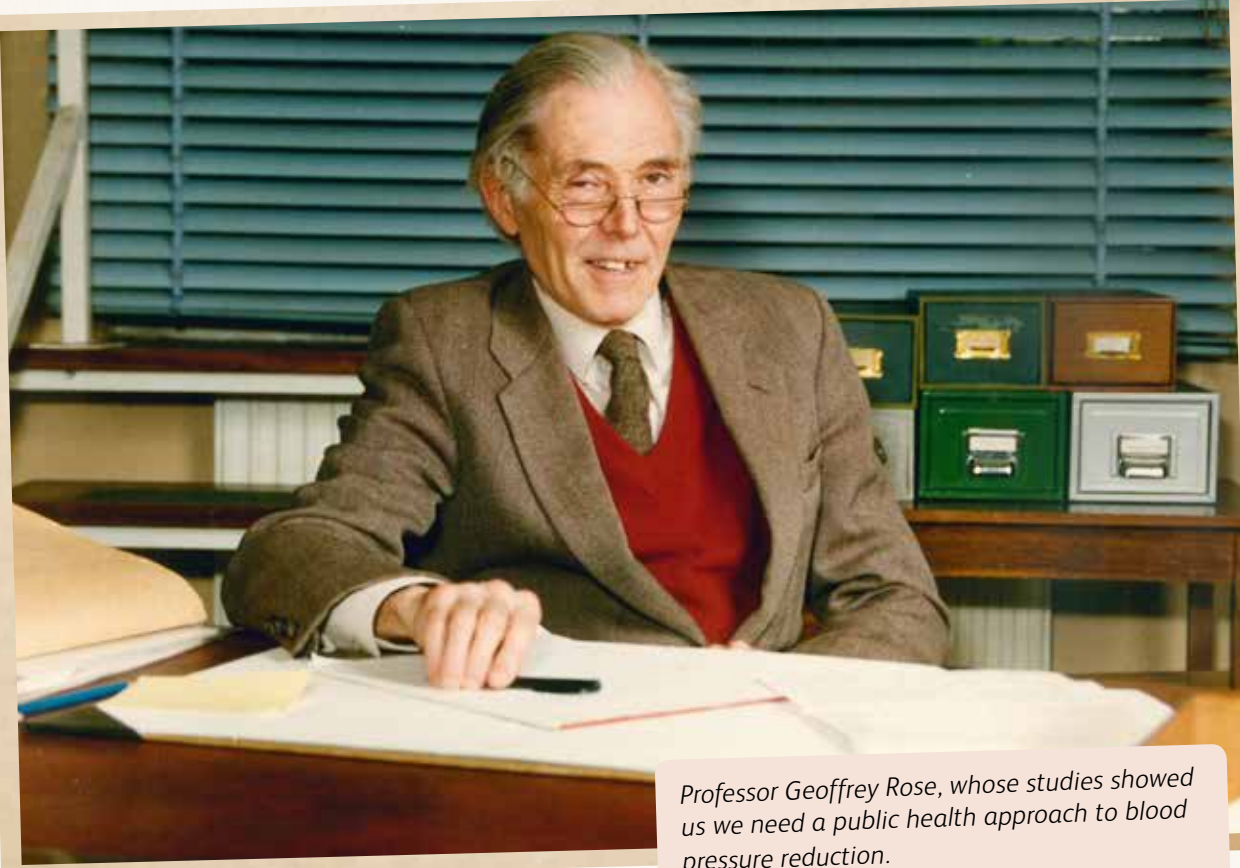
immense variability of blood pressure in individuals. A single measurement could not represent a person’s usual pressure.

Any stressful or intense stimulus can raise pressure to levels which might be worrying if sustained. He demonstrated this with his classic 24-hour blood pressure study on one of the junior doctors in his department.

He inserted a canula into the young doctor’s brachial (elbow) artery and attached it to a pressure transducer (or sensor), providing a continuous recording. There was no need to tie the doctor down to a gate as was necessary with Stephen Hales’ horse back in 1733 (see part 1).

During the working day the young doctor’s blood pressure was unremarkable but during Sir George’s ward round, at a prearranged moment, the ward sister stuck a pin into the doctor’s bottom. His numbers shot up to levels that looked alarming. There was also a sharp rise in blood pressure at home at around 11.30 that evening but I will leave it to the reader to speculate why this happened.

Later during sleep the doctor’s pressure fell to low levels which might be considered worrying in an acutely sick patient. Not commented on at the time, were the raised readings when the doctor and his wife were packing their children off to school in the morning.



Professor Geoffrey Rose, whose studies showed us we need a public health approach to blood pressure reduction.

Images Courtesy of Library & Archives Service, London School of Hygiene & Tropical Medicine. Copyright: London School of Hygiene & Tropical Medicine.

Geoffrey Rose, 1926-1993

The concept of hypertension as a risk factor for diseases of the heart and blood vessels was further advanced by Geoffrey Rose. He worked for Pickering in the 1960s then specialised in population health, becoming professor of epidemiology at the London School of Hygiene.

Rose came up with a pragmatic definition of hypertension as: *“that level of blood pressure where investigation and treatment do more good than harm.”*

The threshold for diagnosing hypertension, therefore, depends on the evidence around drug treatment for preventing heart attacks and strokes. A figure which will change as new information from long-term treatment trials becomes available.

Rose also noted that the number of people with high blood pressure is closely linked to the average blood pressure of that population. He published this

finding in 1992 in a review entitled, *Sick populations and sick people*.

The implications of Geoffrey Rose’s studies affect us all. If we could lower the average blood pressure of the whole population then the number of people with high blood pressure would fall, preventing countless heart attacks and strokes. So, we need a public health approach as well as a clinical approach to the problem.

If the population average salt

intake could be cut to no more than 5 grams per day, the average blood pressure would fall, fewer people would have clinical hypertension and the whole community would become healthier.

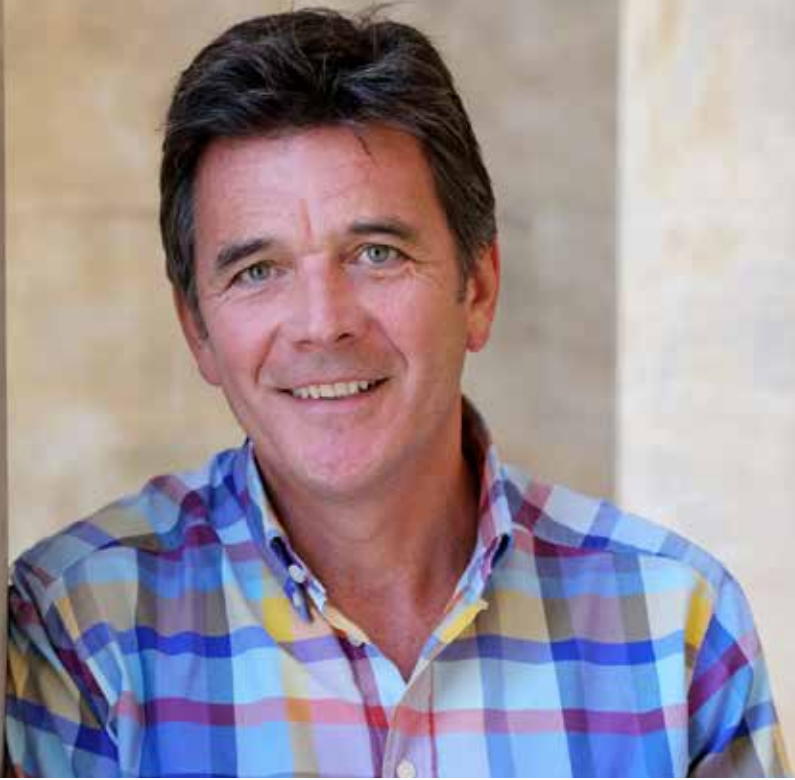
Nowadays, almost all research involves collaboration between investigators on a national or international basis. These projects are carried out by teams of experts, so it is likely that there will be few more individual heroes making major breakthroughs. As we work more as a team to improve lives around the world, we tip our hats to the heroes who led the way.

Professor Gareth Beevers is a Trustee and Medical Advisor for Blood Pressure UK. He is Emeritus Professor of Medicine, University of Birmingham and retired consultant physician, City Hospital, Birmingham.

Rose came up with a pragmatic definition of hypertension as: *“that level of blood pressure where investigation and treatment do more good than harm.”*

Inside Health

We talk all things blood pressure on Radio 4's popular talk show, Inside Health



This January, our CEO Katharine Jenner and Trustee Professor Bryan Williams joined a panel of health professionals on BBC Radio 4's Inside Health discussing all the major topics in high blood pressure right now. With so much to talk about, host Dr Mark Porter (pictured) dedicated the entire show to the topic. Here's a glimpse of what came up:

Clearing up the confusion on blood pressure numbers

Our Trustee Professor Bryan Williams is a Consultant Physician and Chair of Medicine at University College London and is recognized as a world-leading authority on high blood pressure. He discussed the ideal numbers, as there are different guidelines around the world stating different targets.

He explained that it's a linear relationship between blood pressure numbers and health problems, meaning the higher the numbers the higher the risk, and vice versa.

Optimal blood pressure is usually defined as 120/80mmHg. But we define high blood pressure as 140/90mmHg in the UK because that's the point at which treatment is known to be effective at lowering the risk of heart disease and stroke. "And so, we define hypertension on the basis of

whether you're likely to need drug treatment. Treatment is likely to be beneficial even at lower levels, but you would have to treat many more people to see the benefit."

Why does blood pressure rise with age?

Show host Dr Mark Porter asked why some people in their 60s in otherwise super health have high blood pressure.

"It's part of ageing," Williams explained. "By the time you get to about 50 you've lost about half the elasticity of your large arteries and those arteries get stiffer and less distensible". So, the heart has to pump harder to get the blood to flow, raising the pressure. He compared it to blowing up a new balloon – you have to use a lot of force.

"One in two adults over the age of 65 have high blood pressure, so it really is a very common condition."

Which lifestyle interventions work?

So, what can you do to help yourself? As well as a healthy low salt diet and being the ideal body weight, Professor Williams noted that "binge drinking can be associated with quite significant elevations in blood pressure". He also recommended regular exercise "walking is often sufficient five times a week. And stopping smoking, not because

that has a major effect on blood pressure but because it's important in risk management."

Together these would probably drop your blood pressure by about 10 millimetres of mercury – sometimes enough to avoid treatment.

And what are the best medicines to use?

Over the last five years guidelines across the world have agreed on the best drugs to use, and that most people need two different drugs. "That's an important message because often patients feel very disappointed when they discover that their blood pressure hasn't responded to one drug" Professor Williams explained.

In terms of dose, some drugs are more likely to cause side effects at high doses. It's good to take two at a lower dose rather than one at a high one. "The sweet spot" Dr Porter called it. "Start low and go slow" added GP Dr Margaret McCartney.

Food for thought

There was much food for thought and the show is still available online and well worth a listen. Just search for Radio 4, Inside Health, High blood pressure or type in www.bbc.co.uk/programmes/m0001xtr

Meet the Trustees

Professor Bryan Williams is a world leader in high blood pressure research and a founding member of the Blood Pressure UK Board of Trustees.



Q You have multiple roles including Chair of Medicine and Director of Research at University College London (UCL) Hospitals. What do these involve?

I'm the Director of the Biomedical Research Centre at UCL Hospitals. We fund research exploring new and inventive ways to diagnose and treat a whole spectrum of diseases.

My role as Director of Research at UCL Hospital is more about applying high tech new research to treating patients. We test treatments further down the development path to see if they're working well. We have 1,000 trials going at a time.

I'm also still a practicing physician. I work with patients with a range of problems and I still have my hypertension clinic. It's important to be on the front line.

Q What inspired you to choose a career in medicine?

I grew up in Liverpool in a working-class family and wasn't expected to go to University, so I broke the mould.

My brothers and I spent a lot of time in hospitals growing up because we were always injured from playing football. I was good at science and I thought medicine would be an interesting way to pursue that with the privilege of being able to interact with people and try to help them.

It's a fantastic career. Working with the university means I can work on research and expect to see it being rolled out into patient care. I'm at the forefront of medicine, it's exciting.

Q How did you get to where you are now?

I studied medicine and renal medicine at St Mary's and went on to work with three stars of blood pressure medicine – Professor Stanley Peart in London, Professor John Swales in Leicester, and Professor Robert Schrier in Colorado – so it was inevitable that I would be interested, and I really was.

I stayed in Leicester a long time because I enjoyed it, we were doing great research. When UCL approached me in 2011 it was good timing. My kids had left home and I was ready for a leadership role.

Q What are the main areas of your research?

My main focus has been on finding the best ways to measure blood pressure. I helped set the NICE guidelines for diagnosing and treating high blood pressure in 2004 and 2011. We made some very bold changes and it's been fantastic to see how different parts of the world have picked them up and developed their own. It's very humbling.

Q What projects are you working on at the moment?

My big interest is high blood pressure in young people. I'm trying to find out if there might be a benefit of treating blood pressure earlier on.

I'm also trying to develop a

diagnostic test to pick up testosterone-producing adenoma – a benign tumour which raised blood pressure. It might be more common than people thought.

I'd also like to work on blood pressure and dementia. Treating blood pressure early could slow the process and reduce the risk of dementia.

I still have my hypertension clinic. It's important to be on the front line.

Q How do you look after your own blood pressure?

I like to go to the gym regularly and keep myself pretty fit and active. I measure my blood pressure and, like most adults, I take tablets. It's really no big deal. My patients always look surprised when I tell them that but raised blood pressure is really not a very exclusive club.

Q What are your goals for Blood Pressure UK?

I would like us to be involved in moving the UK towards combination pills for high blood pressure. People don't like having to take lots of tablets and I'm convinced that having medicines combined into one pill would lead to better blood pressure control.

Q What do you like to do for fun?

I love spending time with my son and daughter and we do a lot of travelling. Between that and travelling for conferences, I've been everywhere in the world. And sport, I love rugby.

JEWELLED ROAST TURKEY & COUSCOUS SALAD

It's Boxing day and not only do you have a ton of turkey left but, because you've overdone it on the Christmas dinner, you just really fancy a light and healthy meal.

Well, LoSalt's here to help with this deliciously colourful turkey salad recipe - and it's quick and easy too!

✓ COOKS TIPS:

Try using leftover roast chicken or some cooked tiger prawns instead of turkey. Try swapping the pistachios with walnuts or pecans.



PREP: 10 minutes



COOK: 5 minutes



SERVES: 4

INGREDIENTS:

- 200g wholewheat couscous
- Bunch spring onions, thinly sliced
- 200g roast turkey, shredded
- 100g dried apricots, chopped
- 100g pistachios
- 100g pomegranate seeds
- 28g pack coriander, chopped
- Juice of 4 satsumas
- 2 tbsp extra virgin olive oil
- ½ tsp LoSalt
- Black pepper



METHOD:

Step 1 - Place the couscous in a large bowl and pour over 300ml boiling water, cover with clingfilm and leave for 5 minutes. Fluff up with a fork and allow to cool.

Step 2 - Stir in the onions, turkey, apricots, nuts, pomegranate seeds and coriander.

Step 3 - Mix together the satsuma juice, oil, LoSalt and a little black pepper and stir into the salad.

CUT THE SALT. NOT THE TASTE

Reducing your salt intake and monitoring your blood pressure are small steps that can make a huge and positive impact on your health. Switching to LoSalt is a simple swap - with 66% less sodium than regular table, sea and rock salts, there's no compromise on taste so it's simple to use... just use it as you would normal salts in cooking, baking and at the table.

SEASON TO TASTE. SEASON WITH SENSE.

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 as complicated as you might 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.



Blood Pressure UK

Helping you to lower your blood pressure

We have put together a simple leaflet to guide you through the process and you can get a copy by telephoning: (020) 7882 6255, visiting the website: www.bloodpressureuk.org, or by writing to: Blood Pressure UK, Wolfson Institute, Charterhouse Square, London, EC1M 6BQ.



ALL THE SAME GREAT TASTE

**THE ORIGINAL AND THE BEST.
#SEASONWITHSENSE**



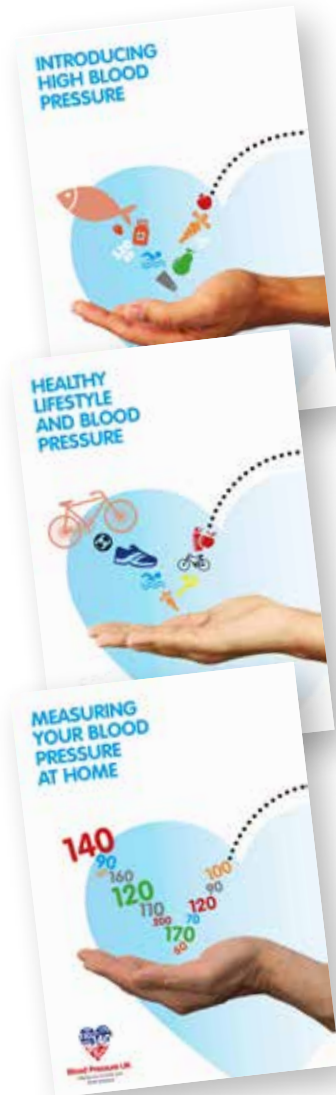
www.losalt.com



Information & publications

LOTTERY FUNDED

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.

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.

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.



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.

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.



With great thanks to the Big Lottery Fund, we have been able to translate our award-winning 'Introducing high blood pressure' leaflet into 32 languages. They are all available to download from our website only.



Blood Pressure UK

Helping you to lower your blood pressure

Our full range of resources includes 'Love your heart: a South Asian guide to controlling your blood pressure' and factsheets on all the common blood pressure medicines.

All these publications are free to Blood Pressure UK members. Call 020 7882 6255 for your copy or visit www.bloodpressureuk.org