

POSITIVE

pressure

20th

ANNIVERSARY

20 years of Blood Pressure UK
We celebrate our 20-year anniversary with a look back at our favourite moments



CAN YOU TAKE HRT IF YOU HAVE HIGH BLOOD PRESSURE?

Find out how menopause affects your heart, and how hormone replacement therapy can help

A SERIES OF INTRIGUING CASES

Professor Gareth Beevers looks back on some of his most unusual patients

STEVE'S ADVENT CHALLENGE

Steve walks 266 miles throughout advent after losing his sight to high blood pressure



Blood Pressure UK

Helping you to lower your blood pressure

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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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STAFF

Chief Executive Officer
Katharine Jenner
Marketing Manager
Hemini Bharadia
Editor
Kay Dilley
Design

www.chapmandesign.net

Print
www.kindagency.uk
01892 611500

Company number: 3251531
Company Limited by Guarantee

Registered charity in England and Wales (1058944) and in Scotland (SC040230)



Welcome

It is such a pleasure to welcome you to our 20-year anniversary issue of *Positive Pressure*. We take a look back at how we've evolved as a charity, supporting members, the public and health professionals to address high blood pressure, and campaigned to change policies, guidelines and attitudes.

To mark this important moment in our own history and in public health, we are developing our new strategy for the coming years and decades. Many of you very kindly completed our survey in the previous issue, and we are using your insights on what you value most about our work to guide our direction and focus.

The COVID-19 pandemic has highlighted the impact of health conditions that are intrinsically connected to blood pressure, such as heart disease, obesity and type 2 diabetes, and we know our health information and campaigning is more important than ever.

Particularly important in combating both COVID-19 and poor health is the growing awareness of health inequalities, and we're refocusing our efforts on making good health affordable and achievable for everyone.

We've demanded, and achieved, a renewed focus from the Government on the UK salt reduction programme, which requires the food industry to remove the unnecessary salt they add to food. This will help to lower blood pressure across the population. We've also called for blood pressure monitors to be made available on prescription so that finances are not a factor in who can look after their blood pressure at home.

Always at the heart of what we do is providing trustworthy information and support. We launched our new website providing easy-to-find, easy-to-read information, and we took our world-leading, flagship awareness-raising campaign Know Your Numbers! Week online. It was a first for all and a great success at a time when it was needed most. Find your copy of our popular home monitoring resources with this magazine, and give one to a friend.

We're here to support you and everyone in the UK to lead a long and healthy life, and thank you for your incredible and generous support in return.

A handwritten signature in black ink, appearing to read 'Katharine Jenner'.

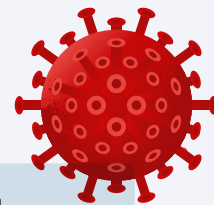
Katharine Jenner
Chief Executive Officer

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FOR YOUR COPY OF
POSITIVE PRESSURE**

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?

Visit

**www.bloodpressureuk.org/
get-involved/**



COVID-19 update

Our Chairman, Professor MacGregor CBE, shares the latest advice

During these uncertain times, we hope you find this update helpful. Those eligible for the vaccine will be invited to book an appointment, usually by letter. Until then, keep looking after your overall health and take very good care to reduce the risk of catching or spreading the virus by following the Government guidelines.

Keep taking your blood pressure medicines

As far as we are aware, people with their high blood pressure under control are not more likely to catch coronavirus or have a more severe reaction to it. However, the evidence is less clear around uncontrolled high blood pressure, which might put you at higher risk of complications.

Your medicines help to keep your blood pressure under control to prevent heart disease and stroke. There is no evidence that they raise the risk of complications from COVID-19 as some headlines claimed early last year, and the latest evidence suggests they might even offer some protection. Either way, please keep taking them.

Understanding who is at risk

The evidence is becoming clearer around who is more likely to be affected seriously by COVID-19, and the most vulnerable are being invited for vaccinations first. Important risk factors include older age, long-term medical conditions such as heart disease, diabetes and kidney disease, and being very overweight. Being male or from Black, Asian and ethnic minority (BAME) communities appears to increase your likelihood of infection or having a serious reaction to it.

Look after yourself

Try to reach or stay a healthy weight for you, with healthy food and regular exercise. Drink alcohol only within the recommended limits and stop smoking if you smoke. These may all help your immune system.

We call for home monitors on prescription



We wrote to the Government calling for blood pressure monitors to be made available on prescription to protect the health of the most vulnerable

Price is still a barrier for many people being able to access a home blood pressure monitor, but research has clearly shown that home monitoring combined with support from a GP improves blood pressure control. This is key to lowering the risk of heart disease, heart attacks and stroke.

During the pandemic there has been restricted access to appointments with GPs and practice nurses, reducing the opportunities to get a blood pressure check. As part of this year's Know Your Numbers! Week where we encouraged everyone to check their blood pressure at home, we wrote to Secretary of State for Health & Social Care,

Matt Hancock MP, calling for home monitors to be made available on prescription for anyone diagnosed with high blood pressure.

The NHS already provides glucose monitors on prescription to people with diabetes, and we, and many other experts in hypertension, believe a similar approach should be taken for high blood pressure.



Blood pressure monitors on prescription would help save the lives of the most vulnerable people and take pressure off GPs at this busy time. We know he is busy dealing with Covid-19, but we eagerly await a response from our Secretary of State for Health.

If you have a smart phone, download the NHS contact tracing app.

FIGHTING FOR THE FUTURE OF SALT REDUCTION

Sonia Pombo, Nutritionist and Campaign Manager at Action on Salt, explains the state of the UK salt reduction programme and how we're working to get it back on track



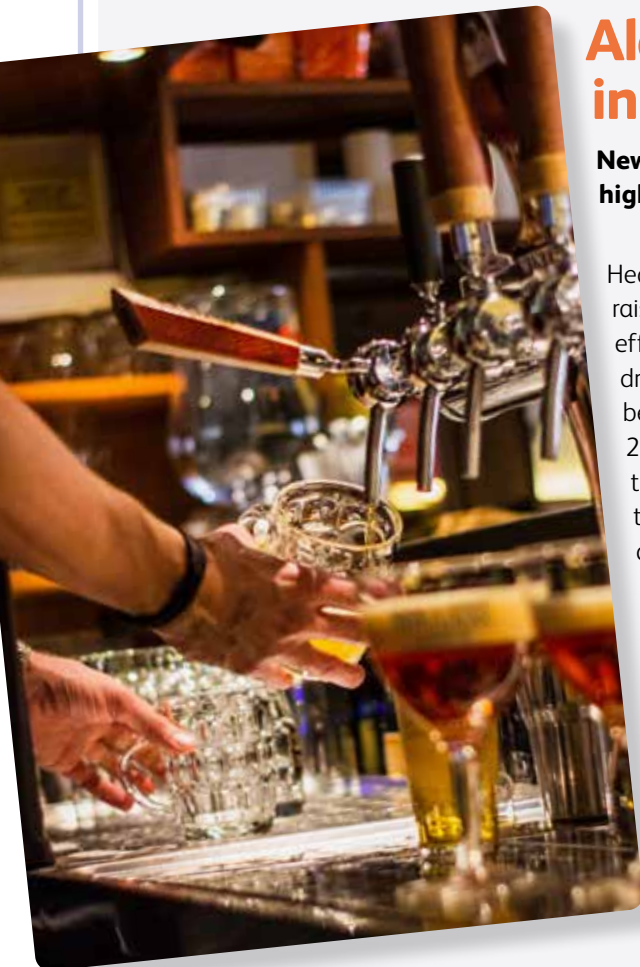
The UK once led the world with its salt reduction programme. The policy encouraged the food industry to remove the unnecessary salt they add to our food which saw a fall in the average amount of salt we eat. The resulting drop in blood pressure has prevented an estimated 18,000 strokes and heart attacks each year, 9,000 of which would have been fatal, and saved an incredible £1.5bn per year in healthcare costs.

A lack of pressure from the

Government and a lack of responsibility from the food industry in recent years has meant that salt intakes remain too high. Public Health England (PHE) recently set new targets for salt reduction, building on the previous targets and aiming to bring restaurants and cafes more on board, but the targets are unambitious. More concerning is whether they will be met given the announcement that PHE is set to be dismantled.

In September, Blood Pressure UK

and Action on Salt wrote to Secretary of State for Health and Social Care, Matt Hancock MP, calling for an independent body to be made responsible for the UK's salt reduction policy. With so much of the salt in our diets now coming from ready-made food and takeaways, the food industry must have the incentive and leadership to create healthy food that keeps our blood pressure healthy, and save thousands of people from dying needlessly every year.



Alcohol raises blood pressure in people with diabetes

New research shows that even moderate alcohol drinking is linked to high blood pressure in people with type 2 diabetes

Heavy drinking is well known to raise blood pressure, but the effects of light and moderate drinking are unclear and have not been studied in people with type 2 diabetes. New research from the United States has shown that even moderate drinking is associated with higher blood pressure. High blood pressure and diabetes are both major causes of heart disease and stroke, so having the two together is a particular problem.

The study included 10,000 people with diabetes and showed that light drinking of up to seven drinks per week

did not appear to raise blood pressure, but moderate drinking of eight to 14 drinks did. There was a dose response relationship, which means the higher the alcohol intake, the greater the effect on blood pressure. Heavy drinking of fifteen or more drinks trebled the risk of stage 2 hypertension, defined as 140/90mmHg or higher for those not taking medicines, or 130mmHg for those taking medicines.



Cutting down on alcohol has huge benefits for your body and mind. Stick within the UK's recommended limit of 14 units per week and this should keep you below the amounts linked to raised blood pressure in this study.

Know Your Numbers! goes online for 2020

This year's campaign was a little different to usual, as we got the nation checking their blood pressure at home



KNOW YOUR NUMBERS! WEEK 2020

For 20 years, Know Your Numbers! Week has encouraged all adults in the UK to find out their blood pressure numbers.

With free blood pressure checks in public places not possible this year, our annual campaign went virtual. It was a first for all involved and we're very pleased to tell you it was a great success.

Individuals and health organisations spread our simple message among their friends and communities: YOU are in control. By buying or borrowing a home blood pressure monitor, you can take control of your health.

Thank you to all who took part, we couldn't have done it without you.

We called for home monitors on prescription

Price is still a barrier for many people being able to access a home monitor, so we wrote to Matt Hancock MP calling for them to be made available on prescription.

We ran a poll on twitter and 90% of responders agreed that they should be made available on prescription.

We made headlines with our message

Our campaign featured in The Guardian, The Telegraph, Express, Metro and Nursing Today, and made an appearance on Sky News and local radio stations.

We had tremendous support on social media

Our campaign trended on twitter for the fourth year in a row with the hashtag #KnowYourNumbers. The messages were seen over 92,000 times and our twitter poll showed that 77.8% felt it encouraged them to check their blood pressure.


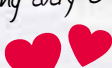
We had great support from people spreading the word and sharing our resources, including our 'Pressure Partners', health professionals, gyms, care homes, local councils and libraries. Plus, support from charities including the British Heart Foundation and Heart UK, as well as the NHS, the National Institute for Health and Care Excellence (NICE), Public Health England and leading researchers.

Our new home monitoring resources are free to all

We had great feedback for our collection of resources which we made available online and sent to those who signed up to support the campaign. You'll find some inside this magazine.

Making a difference

The following message sums up how the campaign can change lives.

Dear Blood Pressure UK,
Thank you all for helping the nation to manage their blood pressure. 
Due to your campaign, I have dusted off my blood pressure machine, taken my pressure this morning, and will continue to do so for a week and monthly thereafter. Without watching your video, I would not have known to take an average reading. Your explanation of the readings was perfect, and I can now be more proactive and knowledgeable about my health. I feel confident to measure my own blood pressure and have sent the reading via email to my surgery, as they are asking patients like myself (on medication for blood pressure) to purchase their own blood pressure machine and advise them of a reading every 6 months.
Kind regards, Rebecca 

Why the campaign is so important

Our recent survey of UK adults showed that:

Two thirds (66%)

said that blood pressure is not a concern for them

Less than one in 5 (17%)

of those who own a blood pressure monitor use it once a month

Half (48%)

of those diagnosed with high blood pressure preferred not to say if it was under control

42%

of those who don't own a monitor would rather a health professional check it

One in three

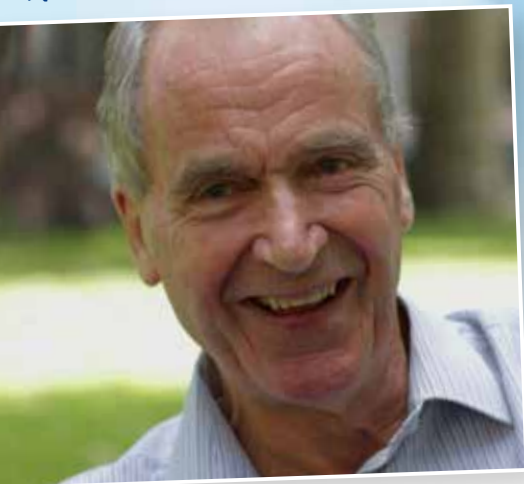
have high blood pressure, including young adults, so our campaign is clearly much needed



20th ANNIVERSARY

of Blood Pressure UK

A message from our Chairman,
Professor Graham MacGregor CBE



Times may have changed, but our aims are the same now as they were in 2000.

We want people with high blood pressure to be better informed, with their blood pressure under control, free from side effects. We want to take the lessons from research out to the people who need it through changes in medical practice. And we want all adults to know that by adopting a healthy lifestyle now you can help prevent high blood pressure, strokes and heart attacks in later life.

We've come a long way in the last 20 years

There is now better awareness of the evidence that lowering blood pressure is hugely beneficial in preventing disease and early death. Through a concerted effort with the National Institute for Health and Care Excellence (NICE) and the British and Irish Hypertension Society (BIHS), we managed to get this evidence out to GPs and their patients. In particular, through the quality outcomes framework (QOF) which gave GP practices a financial incentive to improve blood pressure testing and control locally.

We have a much more logical way of treating high blood pressure too. This often means taking several medicines to lower your blood pressure through several mechanisms.

There's now good evidence that home monitoring can improve blood pressure control which is supported in the guidelines. We're now calling for home monitors on prescription and

promoted home monitoring for this year's Know Your Numbers! Week.

We have better evidence that salt directly raises blood pressure, and potassium, contained in fruit and veg, lowers it. This allows for lifestyle advice for individuals and information to guide policies. As the food industry largely determines salt intakes for many people, this remains an important area for action.

Supporting people with high blood pressure, then and now

When we formed in 2000, the internet was in its infancy. We created the best website possible and an online forum where people could share experiences. We wrote a series of printed leaflets which were highly commended and continue to evolve, and we launched our helpline which provides unbiased information and support to this day.

We set up our flagship campaign, Know Your Numbers! Week, with funding from the Department of Health.

It was originally one day, aiming to draw attention to getting a blood pressure check. We won The Charity Awards (the Oscars of the charity sector) in 2003. In 2012, we won a Guinness World Record for the most blood pressure tests in eight hours. We have had Pressure Stations giving out blood pressures checks in all sorts of places, even a rig in the North Sea. In total, we have reached over 1.5 million people with a free check.

At the end of 2012 we rebranded from the Blood Pressure Association to Blood Pressure UK to reflect our work across the UK. The appointment of a new CEO, Katharine Jenner, who is a Public Health Nutritionist and CEO of Action on Salt and Sugar, reinforced our focus on public health campaigning as well as supporting patients, which continues to this day.

Celebrating 20 years

To mark our 20-year anniversary, we created our fantastic new website which is receiving great feedback, and ran our Focus on the Future survey which received tremendous support from members telling us where they would like us to focus our efforts from here. We're using these insights to guide our new strategy as we speak.

Over the next 20 years we want to continue what we've started, and do it even better. That means finding those who don't know they have high blood pressure and getting it under control – there are still millions out there – especially those with severely raised blood pressure as they are at much greater risk.

Putting ideas into action takes funding as well as dedication. We don't receive funding from pharmaceutical companies or the Government and we are funded almost entirely by membership, grants, donations and legacies. To reach those who need our help, your support can make a huge difference.

Thank you to all who have supported us

As we look to the years ahead, I would like to say thank you to the people who have worked so hard to get us where we are now.

Thank you to our Trustees who provide continued support and guidance. It has been a pleasure to watch their careers

Over the next 20 years we want to continue what we've started, and do it even better.

evolve as they all become distinguished experts and world leaders in blood pressure research and treatment.

Thank you to our team, including those who were there at the beginning and those who are here now. To Katharine who steers the ship, Hemini who gets the nation knowing their numbers, Nirmala who provides a lifeline to patients, Gareth who is a font of knowledge, and Kay communicates that knowledge to the people who need it.

Thank you to the health professionals, health care teams, pharmacists, leisure centres and other organisations who support us in their communities.

Finally, and most importantly, thank you to our members who continue to support us and use our services to support their own health.

Together we have changed awareness and treatment of blood pressure on an individual and national level, and we will continue to do so for as long as we are needed.

Graham MacGregor is Professor of Cardiovascular Medicine at Queen Mary University of London and Chair of Blood Pressure UK and Action on Salt. He was awarded a CBE in 2019 for services to Cardiovascular Disease.

A message from Hemini Bharadia, our Marketing Manager

It has been great to see the evolution of the charity and its role among the health care community, and the growing awareness of high blood pressure. I'm proud to work for a small but highly dedicated charity that continues to make a difference. Thank you to all our members, Pressure Stations and supporters for your continued support.

A message from Katharine Jenner, our CEO

To our members and supporters, I truly hope I have been able to reflect your needs back to the decision makers at the top levels of politics and healthcare provision, and promise to continue challenging them to do the best for preventing and treating high blood pressure in the future.



2000-2005

We won The Charity Awards in 2003 for the Healthcare and Medical Research Category.



2011-2015

Below: Sadiq Khan with our former team member, Adam, having his blood pressure checked in 2014.



2006-2010

Above: Outpatient nurse Liz from Wakefield in her Lifesize blood pressure costume in 2006.



Graham, Nirmala and Katharine with the cast of New Tricks and Dr David Collier (far left) from Queen Mary University of London.

Nirmala and Graham at our 5th anniversary dinner.



20TH ANNIVERSARY OF BLOOD PRESSURE UK ♥

Our fundraisers

We simply couldn't do it without our our fabulous fundraisers.

Elvis and friends attended a memorial fun run in Wakefield, 2007.



Steven Primrose-Smith cycled 22,000 miles across Europe from 2011-13, and even wrote a book about it.



10K runners having fun in the sun, 2006.



Mark Edwards took on the Marathon in 2011.



2016-2020

Below: Katharine receiving a cheque following a talk given for the MFM Women Foundation UK in 2017.



Above: Hemini publicising our work at the BIHS conference in 2018.

Above: Gareth and Nirmala at the BIHS annual meeting in Birmingham, 2019.



Right: Hemini measuring blood pressures at a HEART UK event, 2016.

Below: Katharine admiring the Dr Who themed poster at the BIHS annual meeting in 2019.



Above: Graham with his medal after his investiture ceremony in 2019.

Julie Slack and friends who cycled for four days to three cities, 2017.



Paul went from casual jogger to Marathon runner in 2019.

JP took on the London marathon (with support from baby Sylvia), 2017.





Our Know Your Numbers! Pressure Stations getting behind the campaign.



And a Royal Mail post mark for good measure.



Graham dropped by after his clinic and checked the blood pressure of the CEO of St George's hospital, where we were based, c2001.

Know Your Numbers! Week

Our Pressure Stations offer free blood pressure checks around the country every year



For our first Know Your Numbers!, we set up shop at Harrods outside their pharmacy. They gave Nirimala (right) and the team some lovely refreshments at the end of the day.



We love coming up with new themes every year, reflected in our eye-catching posters.

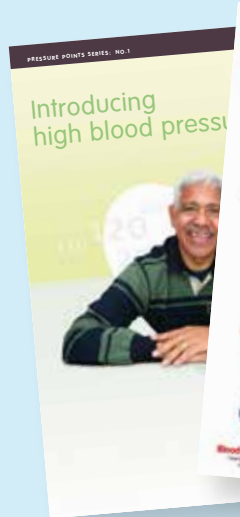


Our leaflets, then and now

We started off with just one leaflet, now we have a whole range, and we translated our most popular leaflet, Introducing high blood pressure, into 32 languages.

Positive Pressure

Our popular flagship magazine has evolved over the last 20 years and goes from strength to strength



I hope someone will think, 'if he can do it, I can do it'



Steve and his fabulous light-up jumper

Steve Rebus lost his sight at the age of just 24 due to high blood pressure, and he's just walked 266 miles during advent to raise awareness for Blood Pressure UK



And holding up his victory trophy from his wife, Sarah

FUNDRAISING

"That was the hardest thing I've ever done", said Steve Rebus, who has just walked over 20,000 steps a day throughout advent for Blood Pressure UK, raising over £1,300. He faced freezing temperatures, torrential rain, broken apps and ruined shoes all to raise awareness and funds to beat high blood pressure.

"I decided it was time to get off the side lines again" he told us, having previously taken on the gruelling Tough Mudder challenge to raise money for World Cancer Research Fund. (Brilliantly, he's also dressed up as a banana.) But 20,000 steps a day was a little further than he imagined.

"That's 251 miles, which is the same as walking to Derby (my hometown) and back again! So, I walked the 'Epsom Derby'. I only realised how far that was after I started fundraising. I thought, 'well, I've done it now!'" When he crossed the finish line on Christmas Eve, he'd clocked up 266 miles, more than ten Marathons.

Steve lost his sight in 2000 due to two brain haemorrhages (bleeding in the brain) caused by high blood pressure. "I was repairing

cars in a body shop when I realised I couldn't read a number plate. I didn't think much of it but then the headaches started and eventually I couldn't make it up the stairs. One morning I woke up and could barely move. My blood pressure in hospital was 280/220mmHg." The bleeding damaged his optic nerve and knocked out his central vision, leaving him with only blurry peripheral vision.

He's been on blood pressure medicines ever since, and learning to take care of his health has been a life-long journey. "When you lose your sight, you lose everything you can do.

You can't even make a cup of tea. I went from playing football and going to the gym to not able to exercise."

He's since learned about the right balance of nutrients for his body, watching the calories ("they sneak them into everything") and how to exercise safely. He recently received his 60lb weight loss badge from FitBit, a wrist band he uses to track how far he's walked, and his doctors have lowered the dose of his medicines.

"When you exercise, you feel happier because of the release of endorphins. Then those around you feel happier too."

Steve wanted to raise awareness of high blood pressure no matter what your age. "I wouldn't wish the consequences on anyone. It's so easy to get a blood pressure check and know your numbers, just go to the chemist or get a home monitor, then you can relax."

He says he's filled with "ineffable joy" when he thinks of what he's achieved and the support he's had from his wife Sarah and many friends and onlookers. "If I can inspire one person to get out and get active it's worth it. I hope someone will think, 'if he can do it, I can do it.'"

We are incredibly grateful to Steve for his extraordinary efforts. Make a donation at [justgiving.com](https://www.justgiving.com) (search for **Steve Rebus**) and read about his extraordinary adventures on his blog, [fitblitzsr.wordpress.com](https://www.fitblitzsr.wordpress.com)



The results of our members' survey are in, and we are incredibly grateful for your generous comments and insights

Focusing on the future



This summer, we asked you to fill out our Focus on the Future survey to find out what you value most about our work and where you'd like us to focus our efforts more in future, and we were overwhelmed by the response. We went to the office one day and could barely open the door for the mountain of envelopes, not to mention the online survey results.

We'd like to say a huge thank you for taking the time to answer our questions about yourself and our services, and sharing your practical suggestions for improvements. We're using your insights to guide our strategy and we're already putting plans into action.

If you didn't fill out the survey, we hope you find these insights interesting, and if you have any thoughts to share, you're very welcome to get in touch at info@bloodpressureuk.org



Reaching those who need us

Your answers told us more about you and who we're reaching, which helps us to tailor our support to meet your needs and shows us who we need to reach out to more.

Fewer people discovered us via health professionals than by other means, and reaching more health professionals will form part of our new strategy. We're also encouraged to

see that we're providing support when health professionals are not able to in the time they have.

We will continue to focus our attention on reaching Black, Asian and other ethnic minority communities who tend to have higher risks related to blood pressure. Awareness-raising and service provision efforts are growing for these groups as COVID-19 has exposed higher health risks, both related to the virus and in general.

Providing support online, in print and over the phone

There is a real mix of how people prefer to receive support – some like online resources and some prefer printed materials. We make great efforts to provide both for free and have just updated our website for online users and continually review our printed resources.

We're also exploring further ways we can provide support in different formats based on your brilliant suggestions.

Covering the topics you value

We asked about the topics you find most helpful and interesting across all of our resources including our leaflets, our website, and *Positive Pressure* magazine and e-news.

Information on medicines is a very popular topic, with interest from eight out of ten people. Healthy living, blood pressure monitoring, news and research and our campaigns are popular too, and we weren't surprised to see a lot of appreciation for Professor Gareth Beevers' historical features in *Positive Pressure*.

We'll be taking your lead on topics to cover in future. There were too many ideas to list, but some popular themes include:

- continued updates on blood

pressure and COVID-19

- how the different blood pressure treatments work
- managing blood pressure when you have other health conditions such as diabetes and arrhythmias
- diet, healthy living and natural ways to manage blood pressure
- exercise when you have physical problems such as joint pain
- advances in science and research.

If you haven't discovered these already, you will find lots of information on managing your blood pressure in our leaflets and our website. Find these at www.bloodpressureuk.org

Thank you!

Yes, we've said this already, but we really can't thank you enough for sharing your glowing compliments, helpful insights and thoughtful ideas.

We'll leave you with a few of our favourite comments...

"Blood Pressure UK does amazing work, raising awareness and continuously speaking up for change."

"I called the Helpline back in January 2020 and was extremely grateful for the help I received. THANK YOU!"

"Positive Pressure magazine is superb – 10/10. To those who make it happen – thank you."

"Love the quality of the magazine, plus the very interesting, informative articles."

"The history of blood pressure series in Positive Pressure is fascinating, thank you."

"It is good to have information about blood pressure in a simple, clear way instead of long-winded and long-worded that leaves you none the wiser."

"I have just received my first copy of Positive Pressure and am very impressed."

Working to lower blood pressure

It was encouraging to see that all areas of our current work were considered valuable. Ensuring that people with high blood pressure get the best advice and treatment available was a clear priority, with 93% of responders telling us this was important. Other key areas were supporting the development of treatment guidelines, finding those with undiagnosed high blood pressure and raising awareness. You also made helpful suggestions about where we could focus further, which fell into three key areas.

- Population-wide activities, both at a regional and national level, including awareness-raising campaigns in public and in the media, further work with health professionals and education for younger people.
- Supporting changes in policies, such as more action from supermarkets in promoting healthier food, and a greater role of pharmacies in finding undiagnosed high blood pressure.
- Supporting individuals with further advice and support on specific topics, such as women's health, recommending products, services and apps for managing blood pressure, and advice about clinical trials.

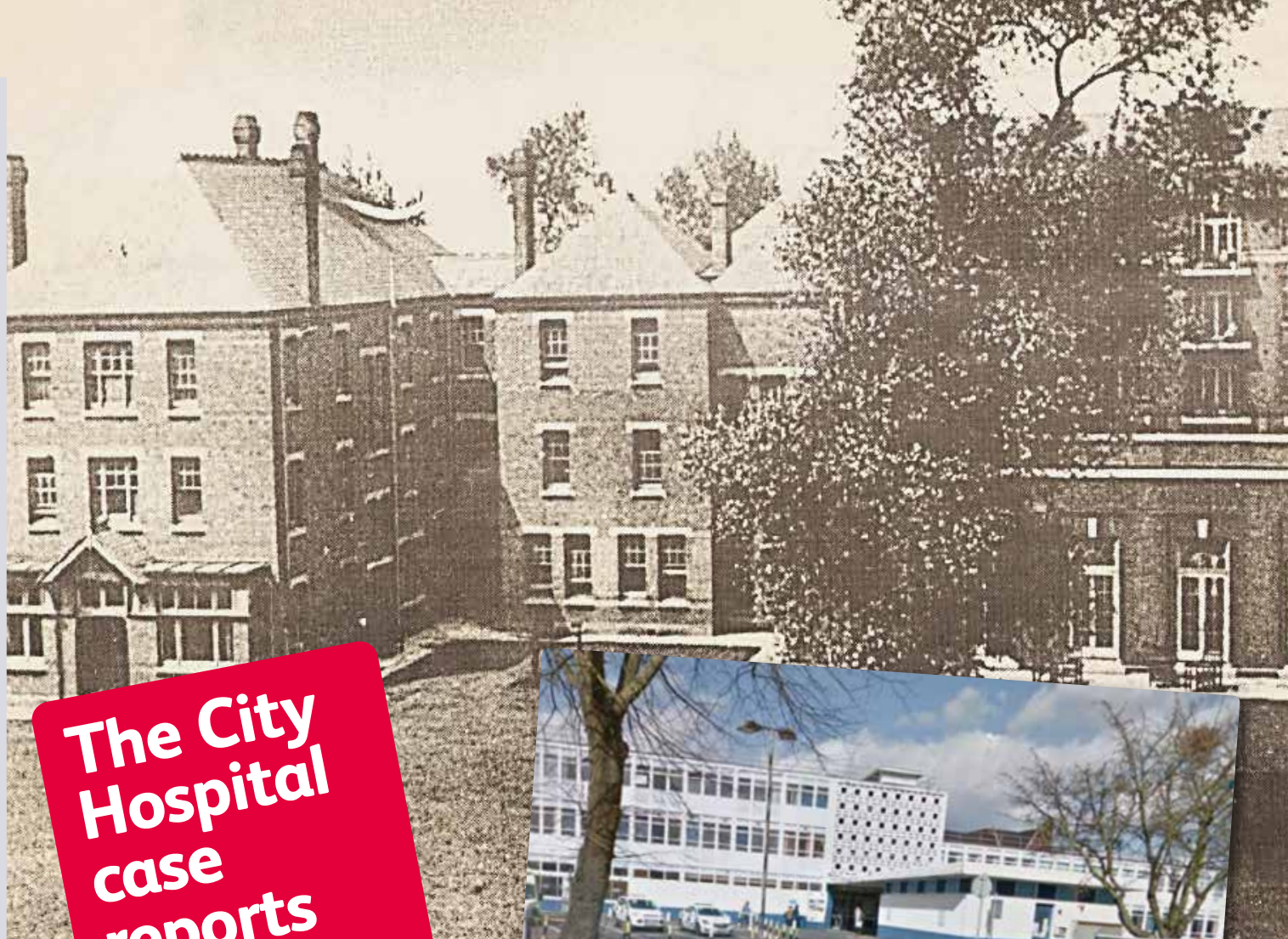
We received practical suggestions for improvements to our day-to-day services and we're already channelling more resources into this.

Working with health professionals

A number of health professionals and pharmacists with various specialties filled out our survey. They found our resources incredibly helpful and had a number of suggestions about how we can support them to support you. We hope to work more with a range of health professionals in future.



There was great appreciation for being able to speak to Nirmala, our Hypertension Nurse Specialist. You can reach our helpline by phone or email, at help@bloodpressureuk.org or 020 7882 6218.



The City Hospital case reports



The rare causes of high blood pressure

Most people with raised blood pressure are diagnosed with “essential” hypertension, meaning that no underlying cause can be found, and it’s likely to be caused by a combination of lifestyle and genes. However, around 5% have “secondary” hypertension, where blood pressure is raised by an underlying problem such as kidney diseases or excessive production of the hormones which control blood pressure. Because these causes are rare, they often go undetected and undiagnosed.

In this and future issues of *Positive Pressure*, Professor Gareth Beevers describes some of the most unusual cases he encountered over 30 years at City Hospital, Birmingham.

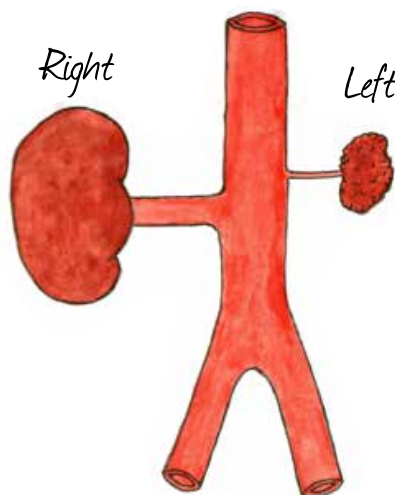
The girl with sky high blood pressure

In 1980, 15-year-old Katya told her mother that her vision was blurry. An urgent appointment with the optician led to her local A&E department. The doctor spotted multiple small “flame-shaped” haemorrhages on the retina at the back of both eyes, and several tiny indistinct areas called “cotton wool spots”, which are areas of dead retinal tissue. The optic nerves, connecting the eyes to the brain, were swollen.

“Go straight to the Birmingham and Midland Eye Hospital” was the urgent advice. At that time this was a specialist hospital in the city centre; now a smart hotel. There, the damage to the retina was confirmed and they admitted her straight away.

The following morning, the ward sister thought she had better check Katya’s blood pressure. She must have had quite a shock; the pressure was 300/200mmHg (it should be 120/80mmHg!). She dashed to the phone and dialled 999! Katya was rushed to me at City Hospital. When the ward rang to tell me that Katya had arrived, I sauntered along with my hands in my pockets, humming a happy tune, hoping to give the impression that this sort of thing was bread and butter to me.

“Hallo, how are you?” “I’m OK.” “Really, no headache?” “No, I’m fine apart from my eyesight”. I checked her blood pressure again and, just as the nurse had found, her systolic blood pressure was 300mmHg. That’s the maximum the mercury blood pressure machine could reach – so it may well have been higher. It was the highest blood pressure I’d ever seen. There was no doubt that Katya had malignant hypertension. If untreated, about 90 %



The left kidney is tiny and totally non-functioning. This may be a congenital abnormality although this is controversial.

The right kidney is modestly enlarged. This may be compensatory enlargement to provide more kidney function. This girl’s overall kidney function was normal.

of such patients die within two years.

It is dangerous to bring very high pressures down to normal too rapidly - it can cause a fall in blood flow leading to strokes, heart attacks and kidney failure. We gave Katya 50mg of atenolol by mouth and that evening her blood pressure was 190/120mmHg so we left it at that. Over the following week her pressure was gradually reduced to 160/100mmHg, the emergency was over. We now had to find out what was the cause of such spectacular hypertension.

Her hormones were normal but X-rays showed a tiny non-functioning left kidney and an enlarged right kidney, suggesting that the condition was long-standing and might even be congenital. There is little information about whether removing non-

functioning kidneys helps with blood pressure. Our surgeon argued that the kidney was doing her no good, might be the focus of future infection, and would be easy to remove. So, we opted for surgery, but with low expectations.

The kidney, only about 6 cm long, had an odd appearance with areas of normal kidney separated by thick fibrous bands, a condition known as renal segmental hypoplasia or the Ask-Upmark kidney, a very rare condition. The cause is unknown but some investigators consider it to be a congenital anomaly of renal development. Babies born with a congenital anomaly in one organ are often found to have other anomalies in other parts of the body, and this was true in our patient. She had minor anomalies in the lumbar spine, high arched feet and a mild divergent squint. This incredibly rare condition became Katya’s likely diagnosis. We published her case study in a highly respected medical journal. Her retinal damage healed over the next three months and her vision returned to normal.

I last saw Katya in 2006 soon before I retired. She was well with a teenage son and her blood pressure was well controlled with just one drug. I was sorry to say goodbye to her, the most astonishing patient of my career.

She must have had quite a shock. The pressure was 300/200mmHg (it should be 120/80mmHg!).

The woman whose high blood pressure did not reach her legs

19-year-old Becky was referred to me to investigate her blood pressure of 153/109mmHg. None of her relatives had hypertension, she was slim and had no symptoms. A general examination revealed no abnormalities, however, this did not exclude the remote possibility that she might have coarctation.

Coarctation of the aorta is a congenital abnormality of the aorta – the large artery that carries blood from the heart to the blood vessels that supply the head and arms, abdomen and legs. In most adults with coarctation there is a tight narrowing of the aorta just beyond the left subclavian artery which leads to the arms, this means the pulses in the leg arteries are delayed, reduced or sometimes absent.

In Becky's case I was unable to find a pulse anywhere in her legs, so I needed to measure her leg blood pressure. This used to be a difficult procedure, requiring the patient to remove their trousers and lie on their tummy. An enormous cuff (if you could find one) was then wrapped round the thigh and attached to the mercury blood pressure machine. You'd then listen for the blood pressure sounds with a stethoscope over the popliteal artery at the back of the knee.

Now, with semi-automatic equipment, it is no longer necessary to listen for the blood pressure sounds. So, I decided to wrap a normal modern cuff round Becky's calf, sparing Becky the need to remove her jeans. Her leg blood pressure was normal, measuring 116/93mmHg.

Once you have thought of the possibility of coarctation, it can be confirmed with a chest X-ray. As blood cannot properly pass down the aorta, over many years, other small blood vessels open up to bypass the blockage. The intercostal arteries running down the inside of the back of the rib cage widen so much that they cause notching on the underside of the ribs. This is a subtle feature on X-ray that you would miss if you were not specifically looking for it. In Becky's case we could see them, so the diagnosis was confirmed. We later did an angiogram, injecting a contrast agent into her arteries which showed widening of many other arteries in her chest that would normally be tiny, confirming the tight narrowing of her aorta.

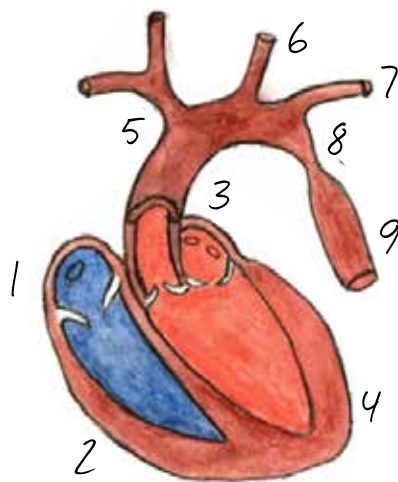
In the past, treating coarctation entailed massive chest surgery, but now it is possible to do an angioplasty, where you inflate a balloon at the end of an arterial catheter (a thin, flexible tube) into the coarctation. This is a

highly skilled procedure, only carried out in specialist centres. So, I referred Becky to the Grown-Up Congenital Heart Disease (GUCHD) unit at the Queen Elizabeth Hospital no more than 5 miles away. All went well and she now attends annual follow-up there with normal blood pressure and no antihypertensive drugs.

It is crucial that women with coarctation do not become pregnant until after treatment. The blood pressure may be high in the arms but it is low in the uterine artery supplying the womb and the baby inside it.

We published this case to point out that it is no longer necessary to feel for the femoral arteries in the groin with its inconvenience and embarrassment. Blood pressure measurement in the legs is now easy to perform.

This used to be a difficult procedure, requiring the patient to remove their trousers and lie on their tummy.



Coarctation of the aorta

- 1. The right atrium collecting deoxygenated (blue) blood from the veins and sending it through the tricuspid valve (shown in white).**
- 2. The right ventricle pumps blood up the pulmonary artery to the lungs to pick up oxygen (not shown).**
- 3. Oxygenated blood returns to the left atrium which sends it through the mitral valve.**
- 4. The powerful left ventricle pumps the blood through the aortic valve to supply the whole body.**
- 5. The first branch of the aorta (the innominate or un-named artery) divides to the right subclavian artery, to the right arm and the right common carotid artery to the head.**
- 6. The left common carotid artery.**
- 7. The left subclavian artery.**
- 8. Tight narrowing of the aorta (coarctation).**
- 9. The descending aorta sending blood to the abdomen, the pelvic organs and the legs. Because of the coarctation the blood pressure there is low.**

The school teacher with the string of beads

Eleanor, a school teacher, was referred to the clinic because of a blood pressure of 165/105mmHg – well over the threshold for diagnosing high blood pressure, and very high for a 28-year-old. She had no symptoms and nothing unusual was found on examination of her heart, abdomen or leg pulses. She had no family history of hypertension and she led a healthy lifestyle with exercise and a prudent diet. Blood and urine tests showed no abnormalities to suggest kidney disease or excess levels of the hormones that raise blood pressure.

I decided that we needed to investigate the arteries to her kidneys with a magnetic resonance imaging (MRI) scan. I wondered if they might be narrow, a condition known as renal artery stenosis. This restricts blood pressure in the kidneys which then secrete the enzyme renin which generates the hormone angiotensin which constricts the tiny arteries (arterioles) around the body, raising blood pressure.

The commonest cause of renal artery stenosis is longstanding “silting up” of the arteries with atheroma, where fatty

deposits are laid down in the artery walls. It happens in many of the arteries of the body, in the kidneys it is called atheromatous renal artery stenosis (ARAS). This is not uncommon in older patients who are often also smokers and may have raised cholesterol levels as well. One might argue that ARAS in older patients is a consequence rather than the cause of hypertension. I would not expect to see it in a healthy 28 year-old.

Eleanor did indeed have a narrow artery, but for a completely different reason. Her MRI scans were dramatic – her left renal artery was normal, but on the right the artery was tortuous and narrowed. It looked like a string of beads. This is the characteristic appearance of a disease called fibromuscular dysplasia (FMD), one of the rarer causes of renal artery stenosis.

The cause of FMD is unknown. Most patients are young and female, and it is occasionally seen in children. Fortunately, FMD can be treated successfully with renal angioplasty, which entails passing a tiny catheter (a thin, flexible tube) with an empty balloon on the end into the narrowed artery. The balloon is slowly inflated to

stretch open the narrowed artery. If the angioplasty is performed in the morning, the patient can usually go home that evening. It is however crucial that the patient rests and avoids any strenuous activity for 24 hours. The procedure was effective, and Eleanor’s blood pressure returned to normal.

In people with narrowed arteries due to atheroma, several studies have shown that angioplasty has little benefit on the blood pressure compared to normal drug treatment. This is perhaps unsurprising given that the high blood pressure and smoking may have caused the narrowed artery rather than the other way round. However, it may help to preserve kidney function.

In Eleanor’s case, angioplasty did the trick. Sadly, I will never know if the effects lasted as I lost touch with her soon after when she moved to London. FMD can recur, and as the cause remains a mystery, she will need careful follow-up to make sure the “string of beads” does not return.

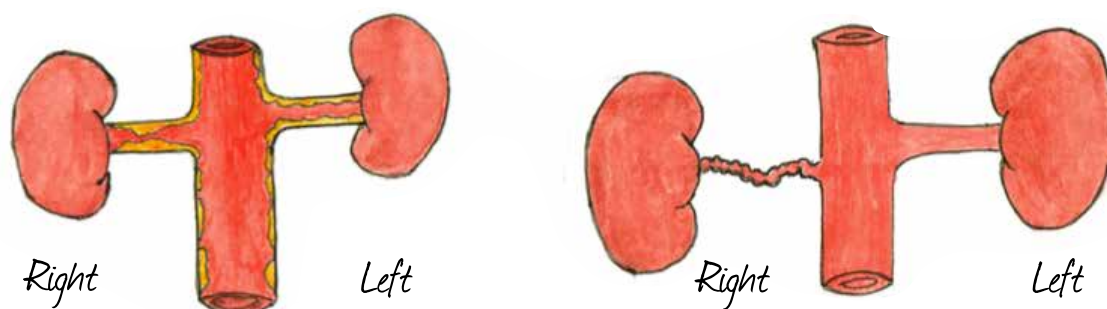
In the next issue

Gareth Beevers will describe some of his most intriguing patients with hypertension due to high levels of the hormones that raise blood pressure.

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.

Renal artery stenosis

- 1. Atheromatous renal artery stenosis (ARAS). There is a severe narrowing of the right renal artery with lipid-rich atheroma (shown in yellow). However there is also extensive disease of the whole arterial tree including the arteries to the brain and heart.**
- 2. Fibromuscular dysplasia (FMD) of the right renal artery. Involvement of FMD in other arteries is rare and usually seen in children where it can affect arteries to the intestines.**



Female sex hormones such as estrogen play vital roles in our bodies, so it's surprising how little most of us know about them.

Following World Menopause Day, Blood Pressure UK caught up with GP and menopause specialist Dr Louise Newson on what you need to know about your hormones, the changes that happen at menopause, and how hormone replacement therapy (HRT) could help – even if you have high blood pressure.



BLOOD PRESSURE, THE MENOPAUSE AND HRT ♥

Blood pressure, the menopause and HRT



WHY DO WOMEN NEED TO KNOW ABOUT THEIR FEMALE SEX HORMONES?

We have estrogen (oestrogen) receptors throughout our bodies, which means estrogen has various roles in our health. It has protective effects on our bones, cardiovascular system (that's your lungs, heart and blood vessels) brain, vagina, joints and skin, for example.

We have other sex hormones including progesterone and testosterone which play their roles too, and can affect your mood and energy levels.

During the menopause, our ovaries (where our eggs and sex hormones are made) stop making these hormones. This causes symptoms like hot flushes, palpitations (where you can feel your heart beat), headaches, low mood, memory problems, fatigue, urinary symptoms and lower libido. The medical definition of menopause is when your periods have stopped for one year. But this doesn't happen suddenly, it can take many months and even years.

The low hormone levels can have long-term effects too. The risk of heart attacks is five times higher after menopause than before. This is really important, especially as outcomes for women after a heart attack are worse than for men. The risk of stroke, dementia and osteoporosis (weak bones) and other conditions all rise as well.

After the menopause, female hormone levels will stay low, they won't rise again. Menopause is a natural process, it's not a condition or a health problem, but the reduction in hormones mean the risk of health problems rises after menopause. In this way, it's a bit like high blood pressure – it's not a disease but it does raise the risk of diseases.

HOW DOES THE MENOPAUSE AFFECT YOUR BLOOD PRESSURE AND HEART HEALTH?

Estrogen helps to keep your blood pressure down because it has a vasodilative effect, meaning it allows your blood vessels to widen so that blood can flow more easily. It also helps

keep your cholesterol levels down. Like high blood pressure, high cholesterol can lead to heart disease, as it can be laid down in the artery walls, clogging them up.

Estrogen has other roles in your blood vessels too. It reduces inflammation and does all the 'good things' like improving nitrous oxide levels, a chemical which is known to relax and widen blood vessels.

These effects are the reason women have a low risk of heart disease before menopause then it suddenly rises afterwards. Plus, the change in hormones can make you feel tired or low, so women sometimes turn to things like unhealthy eating, which raises the risks too.



WHAT IS HRT AND HOW CAN IT HELP?

Hormone replacement therapy (HRT) is where women are prescribed hormones to replace the ones which are no longer being made by their bodies.

Taking the right dose and type of HRT can improve symptoms of menopause and perimenopause and improve quality of life – many women on HRT say they feel like their old self again.

It can help prevent illnesses too. Good evidence shows that HRT can preserve bone strength and protect against broken bones. Some research also shows it can help protect against heart disease, heart attacks and type 2 diabetes.

For heart disease in particular, some research shows that starting the right type of HRT within 10 years of the menopause is associated with a lower

risk of developing coronary heart disease – the main cause of heart attacks – compared to women who don't take it.

HRT can come as a tablet, or through the skin in patches, gels, or sprays. It can include estrogen alone if you have had a hysterectomy, or estrogen with progestogens or micronised progesterone – this is a newer type of progestogen and is known as the body identical progesterone. Sometimes testosterone is also prescribed.

CAN YOU TAKE HRT IF YOU HAVE HIGH BLOOD PRESSURE?

There has been a lot of confusion around HRT and heart health and some women are needlessly advised to stop taking HRT if they have high blood pressure. In fact, estrogen prescribed as a patch, gel or spray allows your blood vessels to widen, so it does not raise your blood pressure and can actually work to lower it. Progestogens have differing effects, but the newer type, micronised progesterone, seems to have no effect on blood pressure or even lowers it.

In a nutshell, if you have high blood pressure or you're taking medicines to lower your blood pressure, you can still take HRT. Your doctor will need to keep an eye on your blood pressure and adjust your medicines if needed.

Professor Gareth Beevers, Trustee of Blood Pressure UK, encountered patients in his blood pressure clinic at Birmingham City Hospital who had been advised not to have HRT because of their high blood pressure. So, he ran a study to see if HRT raised it further. The results from 161 women, published in 2005, showed that, with careful monitoring and adjustments where needed, it did not.

ARE THERE ANY RISKS WITH HRT?

There is a lot of fear around HRT which comes from a study done in the 1990s called the Women's Health Initiative. It received a great deal of press coverage, and the way the results were presented in the media was very misleading and made the risks seem bigger than they

are. It's a shame because many women have had to suffer through menopause symptoms unnecessarily, and missed out on preventive effects on heart disease, osteoporosis, type II diabetes and dementia. These problems have even become more common in some groups of women with the drop in HRT use.

There are some small risks to be aware of with some types of HRT, and these are a small increase in the risks of blood clots, strokes and breast cancer. What these risks look like for you as an individual depends on many things including your age, family history, your general health, your weight, if you smoke, and whether you still have a uterus (womb), as well as the type of HRT. That's why it's always worth having a conversation with your GP or a menopause specialist, as they can weigh up all these factors and see what's suitable for you.

Breast cancer is the one that worries women the most. Estrogen-only HRT, usually taken by women who have had a hysterectomy, is actually associated with a lower future risk of developing breast cancer. Women taking estrogen and micronised progesterone do not have an increased risk of developing breast cancer in the first five years of taking it, and after this time the risk is very low. As a comparison, women who drink a couple of glasses of wine most nights have a higher future risk of developing breast cancer than women taking HRT containing estrogen and a progestogen.

For most women, HRT is safe and effective and the benefits outweigh the risks.

WHAT ARE THE RISKS OF BLOOD CLOTS AND STROKE WITH HRT?

HRT taken as a tablet is linked to a higher risk of blood clots, known as venous thromboembolism, which includes deep vein thrombosis in the legs and pulmonary embolism in the lungs). There is a small increased risk of strokes but the overall risk of stroke in women under 60 is low.

Often the solution is simply to prescribe estrogen through the skin as a patch, gel or spray. These bypass the

In a nutshell, if you have high blood pressure or you're taking medicines to lower your blood pressure, you can still take HRT.

liver, which produces the clotting factors needed for blood clots to form. So, they don't raise the risk of blood clots.

With progestogen, older types have a slightly higher risk of blood clots but the new type, micronised progesterone (Utrogestan), does not.

What advice would you give to women with high blood pressure who are peri- or post-menopausal?

Prevention is key when it comes to health problems like heart disease. Take care of your health in the ways that we all need to – exercise, eat well, avoid processed foods, and limit alcohol and cigarettes – and find ways to look after

yourself, such as yoga and meditation.

The effects of changing hormones can happen little by little, so they sneak up on you. You might gain weight very slowly and feel gradually less and less like yourself, then by the time you're told you have high blood pressure or high cholesterol you might feel so down and lethargic that exercise feels impossible.

Wherever you are now, just start with something small that makes you feel a bit better, and build up from there.

WHAT ELSE DO WOMEN NEED TO KNOW ABOUT MENOPAUSE AND THEIR HEART HEALTH?

The more knowledge you have, the more you will understand what's going on in your body and how to look after it. This means you'll have the information you need to have constructive discussions with your GP.

Menopause can be a positive experience, don't suffer unnecessarily. The more you understand about your body and what you need, the better.



Dr Louise Newson is a GP and Menopause Specialist. She is founder of consultancy Newson Health and Wellbeing Centre in Stratford-upon-Avon, who provide information and treatment to women during and after menopause. She has developed a menopause education programme with www.fourteenfish.com to provide training to healthcare professionals about the menopause and the appropriate treatments. You can find more information on Dr Newson's website www.menopausedoctor.co.uk and use her new app, balance, which provides free evidence-based and unbiased information and a health journal and community features, allowing you to take control of your menopause wellbeing.

Meet the Team

Hemini Bharadia is Marketing Manager at Blood Pressure UK. She is the driving force behind our flagship campaign, Know Your Numbers! and builds relationships with teams around the country.



Q What led you to life at Blood Pressure UK?

I was looking for a role in the charity sector because I wanted to feel like I was doing something good, so I was really grateful to get it. I had been specialising in marketing and communications at the NHS, Imperial College London and at an events company, so it was perfect – it combines my experience in marketing for events, health care and academia.

Q What does your work involve?

I run Know Your Numbers! Week every September which involves a lot of planning and organising throughout the year. I love the creative side of working on the designs for our posters and materials. I recruit Pressure Stations who give the free blood pressure checks, talking to them about why it's beneficial, and I keep things running smoothly throughout the week.

I also look after our website and presence on twitter. Twitter is an important hub for the scientific and medical community so it allows us to build our relationships and visibility online. I also represent the charity at events so we're building connections in person too.

Q Why is Know Your Numbers! Week so valuable?

There is growing awareness around high blood pressure but there are still a lot of people out there who aren't aware of why it's a problem. One in three people in the UK live with high blood pressure, and 6.5 million remain undiagnosed.

There are no symptoms, so the only way to know if your blood pressure is healthy is to get a check.

Health professionals have a duty of care so it's really good for them to take part. It's such an important health care message and blood pressure is becoming more of a priority among health professionals, especially pharmacies.

Q Why is interest in blood pressure growing?

The Government is taking a stronger stance on blood pressure because they are focusing more on disease prevention. There are more campaigns now from other charities, local councils and public health teams, so the message is getting out there. There's been growing collaboration in recent years, as we all have a common goal.

Q What are you most proud of?

I'm very proud of the new website. It was a lot of work and we're getting a lot of great feedback. It's important to provide somewhere people can go for trusted information that's easy to find.

I'm also very proud of Know Your Numbers! Week. It's different every year, and hundreds of Pressure Stations get involved. I've built good relationships with them which is key to their continued support, and I've built up popularity on social media which was especially important this year. People are talking about us more and getting engaged with our work, which is important for awareness.

We're the only charity that's dedicated solely to lowering blood pressure. We're a small but dedicated team, there's a lot of passion.

Q What would you like for Blood Pressure UK in the future?

I'd like to grow the awareness of Blood Pressure UK among health professionals and the public, so that more people come to us for support with their blood pressure.

We're the only charity that's dedicated solely to lowering blood pressure. We're a small but dedicated team, there's a lot of passion.

Q What do you do to look after yourself and your blood pressure?

I like to go out walking, which is really good for you, and I try to eat my 'five a day'. I like meeting up with my friends and family, and especially spending time with my little nephews who keep me young at heart. I enjoy going out for nice meals, and going away for quiet relaxing breaks. It's important for your mental health to relax and take some you time so you can come back with a clear mind. It's important to have balance.

LoSalt, the UK's leading reduced sodium salt, are campaigning to highlight how small lifestyle changes can make a big difference to your health. A simple switch is to **#SeasonWithSense** when it comes to home cooking.

Advice from Dr Sarah Jarvis, GP & Media Medic

COVID-19 has highlighted the importance for us to make healthier choices. Reducing our daily salt intake by just 1g/day could help save over 4,000 premature deaths and save the NHS £288 million a year. To do this we need to take control of our cooking, the food we eat and how we are seasoning.






Advice from Sally Bee, TV cook & motivational speaker in health & wellbeing

After surviving three heart attacks before the age of 36, I realised very early on that the food I eat affects my health. As a passionate foodie and cook, I know how a little salt is sometimes essential to bring out the flavours in food but with the issue of high blood pressure in the UK on the rise, it's important to remember that cooking with too much salt can create health problems.

One simple way to reduce salt in your cooking is to use herbs, spices and lemon juice as alternatives to flavour dishes. If you can't go without salt, I advise you **#SeasonWithSense** - **LoSalt** has 66% less sodium and can be used in exactly the same way as you would use normal salt, whether you cook, season or bake with it.



SLOW COOKED CHILLI CON CARNE

 Serves: 4  Prep: 25 mins  Cook: 2½ Hours

INGREDIENTS:

- 1 tbsp oil
- 400g diced braising steak
- 1 onion, roughly chopped (180g)
- 1 red pepper, cut into chunks (180g)
- 1 tsp hot chilli powder
- 1 tsp ground coriander
- ½ tsp ground cumin
- 1 tsp **LoSalt**
- 400g can chopped tomatoes
- 400g can kidney beans, drained and rinsed

METHOD:

1. Preheat the oven to 180°C, gas mark 4.
2. Heat the oil in a large frying pan and fry the steak and onion for 3 minutes. Add the pepper and cook for a further 2-3 minutes. Stir in all the spices and **LoSalt**, then add the chopped tomatoes, 200ml water and the kidney beans.
3. Bring to the boil and transfer to a casserole dish. Cover and bake for 2½ hours or until the steak is tender. Serve with freshly cooked rice and soured cream.

INSPIRATION:

For more simple, healthy meals, please visit our new look website: www.losalt.com



✓ COOK TIPS:

Try using black beans to replace the kidney beans or serve spooned over jacket potatoes.



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

A lasting way to help others with high blood pressure

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



Blood Pressure UK

Helping you to lower your blood pressure

Blood Pressure UK is here to help.

With our information packs, range of leaflets and our helpline, we provide reassurance and support to those who need it. All of this work is expensive, and while membership subscriptions and donations help enormously, leaving a gift in your Will can help us make a bigger difference.

Leaving a gift isn't as complicated as you might think. It doesn't have to be a large amount, and it will give you the assurance that our work will continue long into the future.

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

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



SEASON WITH SENSE

66% less sodium than regular table, sea and rock salts.



All the same great taste

For this creamy leek baked potato recipe and other low sodium cooking inspiration go to 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. Visit www.bloodpressureuk.org for your copy.