## pressure

## ONCE IN A LIFETIME

Paul from Kent achieved his dream when he ran the London Marathon HEROES OF HYPERTENSION
The great minds who shaped the course of blood pressure history
THE POWER OF THE POP-UP
How community pressure testing could be the key to tackling high blood pressure

The diet plan that's healthy for your body and for the planet

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Cosme 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

A new diet plan was published this year, taking a fresh look at what makes a healthy diet. But this time it's not just about eating for a healthy body, it's about eating for a healthy planet too (page 12).

The ultra-processed, high calorie, low nutrition diets many of us have become used to are not only harming the health of billions around the world, they're harming the environment. Now's the time to take a long hard look at the foods we take for granted and make changes that could be the key to slowing climate change.

The new diet guidelines mark a paradigm shift in how we consider what it means to be healthy. It now means considering the health of the people and environment around us, as well as what we eat.

The hidden costs of modern diets on our health are represented perfectly by the salt hidden in foods. It's been making headlines again as the silent killer that it is. It's hidden in the attractive-looking processed foods that we buy (page 5), it's in the children's restaurant meals that give children a life-long preference for salty flavours (page 7), ironically, it's even hidden in some medicines (page 6).

On the other side of the battle is the growing wave of community-based screening programmes. Opportunistic testing is fast becoming a cornerstone of blood pressure awareness and diagnosis - perhaps because the tests on offer are free, quick and easy, but just as likely because they involve a real conversation and a human connection.

The way our diets have evolved is both a local and a global problem. And the solutions are both local and global too. The food industry and governments need to team up to protect the environment and produce healthy food - the technologies are already there. And there are changes we can make too. Now's the time to make changes to look after ourselves, each other, and the world we live in.

 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? Call us on 02078826255 www.bloo visit

# Out and about A few things we've been up to lately 



## Public Health England gets ambitious

We were at the Old Trafford Football Club this February when PHE announced their first ever national ambitions to tackle the causes of heart disease and stroke at their annual conference. Lots of people wanted to ask us about Know Your Numbers! and community pressure testing - our resources suitcase was very light on the way home! Marketing Manager Hemini took a quick break to have her blood pressure and heart age tested and is very pleased to say they are healthy.

## We talk blood pressure on Radio L's Inside Health <br> Our CEO Katharine Jenner and Trustee Professor Bryan Williams joined a panel of experts at Radio 4's talk show Inside Health this January. With so much to cover, the entire episode was dedicated to blood pressure. Visit www.bloodpressureuk.org for more.



## Blood pressure and the menopause

We made an appearance in the magazine of The Menopause Exchange, who provide information and support throughout the menopause. Our guest article explained the blood pressure basics and when it's safe to use hormone replacement therapy.
www.menopause-exchange.co.uk
SALT AWARENESS WEEK
Salty children's meals in restaurants and takeaways came under the spotlight at this year's Salt Awareness Week. We were there to explain the link with blood pressure from childhood through to adulthood and of course give free pressure checks (page 7).

## Food Matters Live 2019

We're off to London's Excel Arena from 19-20 November for Food Matters Live 2019. It's the UK's largest showcase of innovations in food and drink aiming to improve health and wellbeing. The three-day event brings together food industry experts, policy makers, start-ups and household names. Would you like to come too? Visit www.foodmatterslive.com

## LOOK OUT FOR US ON TRUST ME I'M A DOCTOR

Keep an eye out for our Chairman Professor Graham MacGregor on BBC Two's Trust me, I'm a doctor this Autumn. He'll discuss 24 hour blood pressure monitoring and the role of salt in raising your numbers, especially the so-called gourmet salts that pretend to be healthy.

## WOULD YOU LIKE TO TEST DRIVE OUR NEW WEBSITE?

We're making a shiny new website and we'd love your feedback. Last year we took on the mighty task of rewriting our entire site. Now, the words are written and reviewed by health professionals, the look has been designed, and we're building a fullyfunctioning online fount of blood pressure knowledge.
We want it to be fresh, informative, and easy to find what you're looking for. And we'd love your help.
Would you be happy to spend some time on the new site seeing if everything is easy to find and if you like the way it looks?

Email
info@bloodpressureuk.org or call us on
02078826255.

Your feedback
will make a massive
difference.

## Blood Pressure News

# Blood Pressure UK Trustees on the Queen's Birthday Honours list 

Our Chairman Professor MacGregor and Trustee Professor Caulfield are recognised for preventing heart attacks and strokes

At the time of going to press, the Queen's Birthday Honours list for 2019 was announced, and two or our Board of Trustees were among those recognised for their outstanding work.

## Professor MacGregor receives a CBE

Professor Graham MacGregor said: "I am thrilled to have been awarded a CBE for services to Cardiovascular Disease and want to thank my team for their continuous support."
Graham MacGregor is Professor of Cardiovascular Medicine at Queen Mary University of London and Chair of Blood Pressure UK and Action on Salt. He has worked tirelessly for decades campaigning to lower the nation's salt intake and blood pressure

to prevent unnecessary deaths. He founded Blood Pressure UK and has been a driving force of the UK salt reduction campaign since it began in the early 2000s. It has saved an estimated 9,000 lives per year due to the reduction in blood pressure and has been adopted by countries around the world.

## Professor Caulfield is made a Knight

Blood Pressure UK Trustee Professor Mark Caulfield was awarded a Knighthood for his services to the 100,000 Genomes project, saying "I am deeply honoured."
He is Professor of Clinical Pharmacology at William Harvey Research Institute and the interim

Our Chairman Professor MacGregor (main picture) and our Trustee Professor Caulfield (above)

Chief Executive at Genomics England. He has led the 100,000 Genomes project, a huge undertaking exploring the genes of 100,000 people to improve diagnosis and treatment of rare illnesses, including illnesses related to blood pressure. The project has already delivered life-changing results.

We are all incredibly proud of Professor MacGregor and Professor Caulfield. Their awards are all richly deserved. We're looking forward to the investiture when they will be awarded their medals.

# NICE update their blood pressure guidelines 

## UK health experts aim to make blood pressure medicines more available, but is it enough?

The National Institute for Health and Care Excellence (NICE) are updating their guidelines for health professionals who diagnose and treat high blood pressure.
The most significant change in the draft released this March was recommending that blood pressure medicines are offered to people with stage 1 hypertension (blood pressure over $140 / 90 \mathrm{mmHg}$ ) who have a $10 \%$ risk of developing a related disease in the next 10 years, rather
than a $20 \%$ risk, as in the previous guidelines.

The idea is to prevent unnecessary heart attacks and strokes by offering blood pressure treatment at an earlier stage.

Although this sounds like a big change, it will not dramatically affect blood pressure treatment. The draft was released for comments and the final guidance will be published this August. We, of course, fed back our views.


We don't feel the guidelines go anywhere near far enough to tackle the huge numbers of people living with undetected or uncontrolled blood pressure. We are disappointed that patients are still being given little say in their treatment. We also feel that there should be more emphasis on home blood pressure monitoring, based on the most recent evidence.

## Poor diets cause 11 million deaths per year

## Scientists examine 30 years of research to understand the harm done by poor diets

A major new study has shown that a lack of healthy foods and nutrients causes 11 million deaths per year, and many more illnesses.
In the most thorough study of its kind, scientists looked at all the research available on people's diets and the diseases they cause in 195 countries. They found that improving diets could prevent one in every five deaths globally.
Too much salt is the biggest killer, causing 3 million early deaths, followed by a lack of wholegrains, vegetables, fruits, nuts, milk, fibre and calcium. It's also commonplace to eat too much red and processed meat and too many sugary drinks. Unsurprisingly, it's developing countries which are worse off.

sains
These are the most reliable numbers ever reported on just how important good quality food is. The facts are inexcusable and a wake-up call for governments and the food industry. For the UK, it is a timely reminder that salt reduction should still be a nationwide priority.

## AN OUNCE OF PREVENTION...

New national ambitions aim to save 150,000 lives in ten years

A new coalition led by Public Health England (PHE) and NHS England has announced the first ever national ambitions to tackle the major causes of heart disease, stroke and dementia. The aim is to prevent disease before it starts, so there's no need to cure.

The ambitions aim to improve diagnosis and treatment of the big three silent killers - high blood pressure, raised cholesterol, and atrial fibrillation, a type of irregular heart beat which raises the risk of stroke. These problems often go unnoticed
until they cause a life-changing problem, but they can be treated, so getting a diagnosis is key.

## By 2029, the coalition aims to:

$\checkmark$ diagnose four in five adults with high blood pressure
$\bullet$ give three quarters of 40-74 year olds a formal health check-up only half of those eligible for an NHS Health Check take advantage of them
$\checkmark$ raise the proportion of adults at risk of developing heart disease who are taking statins to lower cholesterol from $35 \%$ to $45 \%$.


We were delighted that PHE's new national ambitions included our national Know Your Numbers! Week. Knowing your numbers and making healthy changes saves lives.

# A meeting of minds 

"High blood pressure is a population-wide problem which needs a population wide solution" say blood pressure experts
Professor Paul Elliott, Imperial NHS Trust, and Professor Neil Poulter, Immediate Past President of The International Hypertension Society, shared their wisdom on lowering blood pressure in the population at a seminar hosted by Imperial College London in February. Here are a few of the highlights:

## THE PROBLEM

Diseases of the heart and blood vessels are the largest epidemic known to mankind and high blood pressure is the biggest contributor to it.

## PREVENTION

We need to remove the underlying cause, and that cause is salt. Professor Poulter researched people moving from rural Kenya to Nairobi and saw their blood pressure rise in just one month. As people ate less maize, fruit and veg and more bread and therefore salt, their body weight, pulse and blood pressure all rose.

## SCREENING

The PURE study from 2009 showed that, unsurprisingly, high-income countries have better awareness, treatment and control of blood pressure than low-income countries. This led to May Measurement Month, a global campaign for better access to tests and treatment in the most far-flung corners of the world (page 9).

## TREATMENT

Despite recent improvements in understanding which blood pressure medicines work for different people, different ethnic groups are still not well catered for. Professor Poulter is now leading a study in Africa, South Asia and the Far East to find the best combinations based on ethnic backgrounds.

## AND IN CONCLUSION

- You cannot treat what has not been diagnosed.
- We need a better supply of medicines that work for each individual.
- We need better education - for doctors, politicians and all those involved in health care.

This was one of the most insightful and impassioned updates we've been to and a great celebration of the progress being made.


#### Abstract

The UK was a world leader in lowering national salt intakes to lower blood pressure and prevent illness, but progress has slowed. Here's the latest


## THE FOOD INDUSTRY LOSES MOMENTUM

When the government set salt reduction targets for manufactured food products, our daily salt intakes fell by about 1 g by 2014. That's enough to save the NHS an estimated $£ 1.5$ billion in healthcare costs.
In recent years, supermarkets and some brands have continued to lower the salt in many products, but restaurants, cafes and takeaways have been lagging behind. Many salt targets set for 2017 have not been met.

## 20 YEARS OF SALT AWARENESS WEEK

This March, campaign group Action on Salt commemorated 20 years of their annual Salt Awareness Week. It's been a cornerstone of the salt reduction campaign, galvanising politicians and motivating companies to act.
Each year they make headlines with the shocking amounts of salt added to foods, this year focusing on children's food in restaurants, where progress has been especially slow.
The anniversary reception was a hopeful affair, celebrating progress and looking to the road ahead. There were suggestions for a children's minister, stronger teamwork and legislation for the food industry.

## SODIUM REPLACERS COULD BE USED MORE

Salt alternatives such as LoSalt are not being used to their full potential by the food industry. They create a salty flavour using potassium instead of sodium - the part of salt that puts up our blood pressure - so they can help you to eat less salt while satisfying salty cravings.
At the end of 2017 the nutrition experts at The Scientific Advisory Committee on Nutrition (SACN) and Committee on Toxicity (COT) released a long-awaited report showing that they are safe. They fully support their use and so do we.

## WATCH OUT FOR SALT IN THE HEALTHY SECTION

Despite carrying red traffic light labels, salty ready meals are finding their way into the healthy eating sections of major supermarkets including Tescos, Morrisons and Sainsburys. The meals typically appear healthy because they're vegetarian, gluten free, or have fewer calories, but they're often high in fat, salt or sugar.

The British Dietetic Association pointed out the supermarkets "should be promoting... foods that actually are healthy - not just marketed as being so."


# You can't treat what hasn't been diagnosed 

## The beauty of blood pressure testing in the community



High blood pressure is the biggest cause of disability in the world despite being very easy to treat for most people. It causes over 10 million deaths each year, and often all it would take to save a life is a diagnosis.

Only half of people with high blood pressure in need of treatment are aware they have it. As Professor Neil Poulter, Chief Investigator of May Measurement Month, said recently "you can't treat what hasn't been diagnosed".

Now, more than ever, professionals are taking advantage of chance encounters to reach those who don't know their numbers. Pop-up stations and campaigns giving out free blood pressure tests, often inspired by our annual Know Your Numbers! Week, are appearing all around the country, and even the world.

## May Measurement Month takes on high blood pressure worldwide

May Measurement Month (MMM) is a worldwide campaign raising awareness of high blood pressure, where pop-up screening centres appear all over the globe throughout the entire month of May.

MMM is run by ISH, and led by Professor Poulter, as an extension of their World Hypertension Day on 17th May.
In its first two years, volunteers had already taken 2.7 million people's blood pressures, with over 500,000 people found to have untreated or uncontrolled high blood pressure.
The campaign puts the spotlight on free, accessible blood pressure tests as one of the simplest ways for governments to prevent unnecessary deaths. The idea is to provide greater access to checks and make more headlines, aiming to change health policies around the world.
Now in its third year, MMM continues to go from strength to strength. There have been door to door campaigns in rural communities, and screening sites outside places of worship, in market places, urban railway stations and shopping malls. Some were even seen at wedding banquets!

every week, pharmacies give 30,000 blood pressure tests and 9,000 people are referred onto their GP. Importantly, they're home to 220,000 conversations about blood pressure a week. That's equal to 2.5 million people per year who have not been diagnosed with high blood
pressure, which is huge for raising awareness.
The CCA are now calling for funding to improve links with GPs, provide better training for detecting atrial fibrillation, and train more independent prescribers to take the pressure off GPs.


## Our very own Know Your Numbers! Week is the inspiration behind many of these events. It's the the nations's largest and longest running blood pressure testing and awareness campaign.

Our Pressure Stations have popped up in all kinds of unexpected places - The Royal Albert Hall, the Olympic Park, HMP prisons, and of course Bromley Healthcare's beloved roving blood pressure van.

Our flagship campaign was an instant success from its launch in 2001, going on to win recognition from The Charity Awards, break a Guinness World Record, and most importantly, give 1.5 million people a free blood pressure check.

## You can get involved this year

This year's event will take place from 9th-15th September. We would love to have your support and there's many ways you can help. Organise a Pressure Station, ask your pharmacist or practice nurse to host one, put up posters or simply bring your friends along for a test. Visit www.bloodpressureuk.org or call us on 02078826255 for more. You can register a Pressure Station until the end of July.


## Father of two Paul had a fantastic run at the London Marathon this April, raising over $£ 3,000$ for our lifesaving work

Paul Young from Bearsted in Kent spent months in denial about his dangerously high blood pressure of $206 / 140 \mathrm{mmHg}$ before he started taking his health more seriously. Not only did he start taking his medications, but he took on the London Marathon as well.

Paul has been training hard since January with his wife Jill who ran for the Royal Osteoporosis Society. Inspired by their two teenage daughters who are accomplished athletes, they clocked up the miles together, determined to have a good run on the day. The long Sunday runs and niggly knees paid off. Paul made it to the finish line in 4 hours 42 minutes and Jill made it in 4 hours 26, and they ran together most of the way.
Paul was only 47 when he discovered his high blood pressure and chose to run for us to inspire others to get a blood pressure check and look after their health. He raised $£ 3,160$ for our work, well over his $£ 2,000$ target, and spread the word about getting a check to friends, family and colleagues.

We'd like to say a massive, heart-felt well done and thank you Paul for all your amazing work. What a tremendous effort.
"It was a great day with a fantastic atmosphere. It was a once in a lifetime experience and I really enjoyed it. What a day!''

Paul's tips for taking up running

## Paul hadn't run for years before he took up jogging casually, and later the Marathon. <br> Here's how you can take up running too.

## Set a target

I always wanted to run the London Marathon and was over the moon to get a place. Having a goal made it so much easier to get motivated to train.

## Make a weekly schedule

 I found it really hard to fit training in around work and family life to start with, but having a schedule really helped.
## Find a training plan

The London Marathon have training plans on their website for all levels. I checked mine with my daughters athletics coach and it was great.

## Find a training buddy

I trained with my wife Jill which made it so much more enjoyable. Long runs can get lonely so it's nice to have a buddy to go with.


## Find a park run

Park runs are organized 5 K runs that happen every Saturday morning in parks all over the UK. I love them.

## Stretch!

Make sure you do some core stability and some stretching after you run. I didn't do this to start with but I felt so much better once I did.

## Look after yourself

I asked Blood Pressure UK for nutrition advice and I kept an eye on my blood pressure with a home monitor and went to my GP to make sure my medicines were still suitable. You really get to know what your body needs just by paying it more attention.

# THE PLANETFRIENDLY DIET 

In the last 50 years, the population has more than doubled. To feed the billions, farming and food production have become unsustainable. Perhaps surprisingly, food production is the single biggest cause of global warming and the biggest threat to nature too.
And there's another problem. Despite food production largely keeping up with the population in terms of calories, it hasn't in terms of nutritional quality. Nearly a billion people still have too little food, and nearly two billion are overweight or obese. Meanwhile, a third of the food produced is thrown away or lost during processing, putting extra strain on resources.
produce it. Less reliance on farming animals means less demand for the land in fragile ecosystems, as well as less crops and water. While growing plant crops supports biodiversity and can be a more efficient use of land.

## The Great Food Transformation

Adopting these guidelines will help meet the UN Sustainable Development Goals which aim to end poverty, hunger and malnutrition, as well as The Paris Agreement, which aims to limit global warming to well below $2^{\circ} \mathrm{C}$, an essential goal for halting climate change.

The scientists are calling this the Great Food Transformation. The changes are possible, but will take great commitment and major changes in attitudes and practices from individuals, governments and the food industry.

## How food production affects the planet

Food production has caused $75 \%$ of deforestation. Land is cleared for farming, causing global warming and loss of habitat.

Agriculture uses $\mathbf{7 0 \%}$ of freshwater taken from rivers and lakes.
Largely to water crops used to feed animals.
Food production has caused a $70 \%$ loss of biodiversity.
Deforestation and loss of grasslands means a loss of habitats.
Cattle farming uses more land than any other industry. It also uses water for growing crops, causes soil erosion, and gives out greenhouse emissions.

At least $24 \%$ of greenhouse gas emissions come from food production.

90\% of fish stocks are over-exploited. And fish are affected by habitat loss and pollution.

## What you can eat

The planet-friendly diet (below) contains all the vitamins, minerals, fats, protein and energy you need, almost entirely from plant foods.

The animal products work out as about one steak a month, two portions of fish per week and two portions of chicken, two eggs per week, and a glass of milk per day.

## The win win diet

## This is what the flexitarian diet looks like per day

Type of food (grams per day) Energy (kcal per day)
232

811

Whole grains

Rice, wheat, corn and other

Tubers or starchy vegetables
Potatoes and cassava

Vegatable
All vegetables

Fruits
All fruits

Dairy foods
Whole milk or equivalents
5039

Protein sources
Scientific targets for a planetary health diet for an intake of $2500 \mathrm{kcal} / \mathrm{day}$.



Why did you decide to do Veganuary?
Well OK, I should admit from the start that I did not do 'Veganuary' in fact, but 'Vegetarianuary', which isn't so catchy, but is a lot easier.
Over Christmas I noticed that my vegetarian Father-in-law's meals looked just as delicious as and a lot healthier than my meaty alternatives.

What have you been eating?
I hadn't realised how stuck in a rut I was. I have very little time to cook dinner after commuting home, but I found so many quick and easy recipes online.

I've made vegetable curries, bean stews, halloumi burgers, minestrone soup, even homemade falafel - which were much nicer than shop-bought (if I do say so myself). All ready in under 30
minutes and cheaper than meat versions.

## Has it affected your social life?

Surprisingly, most people I spoke to were also trying to eat less meat. It was a nice change to be asked about something other than salt and sugar.
I quickly realized that restaurants have come a long way in providing imaginative veggie meals. I was even able to order a vegan set menu in France of all places. In fact, I found having less options to choose from quite relaxing - no food envy!

## What about family life?

 I didn't think my husband would join in with me, but not only did he embrace it, he made some of the most delicious meals.Have you carried on since January?
Yes! It's been so much easier than I expected. I do eat some meat, fish and dairy but the balance has shifted completely and I'm choosing higher welfare foods with the money I'm saving.
I do think being vegan would require a lot more time and planning but I'm happy with how much progress I've made.

## Eco-friendly eating <br> 

## 1 Eat more plant foods

Choosing more plant foods and less meat and dairy means land and water can be used more efficiently, reducing climate change and protecting wildlife.

Go for a variety of types and colours of fruits, veg, nuts, seeds, grains and beans.


Look out for credible eco logos too. The Soil Association Organic logo means foods are organic, and the Fairtrade logo shows farmers in developing countries have been paid fairly.

## 2 Buy local

Transporting and storing food uses fossil fuels and releases CO2 into the atmosphere. Sometimes even food that's grown here is transported for processing and brought back again. There's no set way for packets to display food miles but some labels will give you an idea. Shopping at farmers markets and local farm shops is a safe bet.

## 3 Choose sustainable fish



You should find sustainability information on many labels. Look for The Marine Stewardship
Council blue fish logo for sustainable fishing. And the Aquaculture Stewardship Council green logo for responsibly farmed seafood.

The Marine Conservation Society have a Good Fish Guide online and an App to help you choose sustainable fish. It even has a guide to fish fingers. www.mcsuk.org

## 4 Choose sustainable meat



The RSPCA Assured mark (previously known as Freedom Food) shows animals have been well cared for throughout their lives.
And look out for The Soil Association Organic logo as a mark of both animal welfare and environmentally friendly farming.

## 5 Shop for sustainable palm oil products



Many everyday products contain palm oil, like chocolate, bread and margarine, but it's a major cause of deforestation. The RSPO label shows that the palm oil was produced sustainably.

## 6 Be plastic aware

Only a tiny fraction of plastic makes it to a recycling plant, while 8 million tonnes makes its way to the ocean every year. It's made using fossil fuels too, so it causes pollution throughout its life. The worst offenders are singleuse plastics like drinks bottles, cups, straws, plastic bags, food wrappers and cutlery.
See where you can reduce, re-use and recycle. You could buy a stainless-steel bottle, a re-usable coffee cup, and fabric carrier bag for your shopping.

## 7 Cut down on sugar, fats and salt

Foods high in these are often empty calories, causing weight gain and high blood pressure with little or no nutrition. And often a lot of processing. Avoid crisps, cakes, chocolate and cured meats.

## 8 Speak up

If you're not happy with the way local businesses are run, speak up. Write a letter to your supermarket asking them to use only recyclable or compostable plastics, switch to non-plastic bags, and stock sustainable products that meet credible standards.

## 9 Be waste aware

A third of food is thrown away or lost during processing, and wasting less will have a massive effect on the environment. Industries need to take up the available technologies to reduce waste, but there are ways for individuals to reduce waste too. Plan your meals for the week so you don't buy too much, store food in a cool place so it lasts longer, and freeze left overs or use them up in soups or smoothies. Look out for composting schemes like the Community Composting Network to make good use of your organic waste too.

## 10 Find out more

To find out more about the many ways you can look after yourself and the planet, visit the World Wildlife Fund at wwf.panda.org and wwf.org. uk - search for the Livewell plates, and visit Sustain, the alliance for better food and farming, at www.sustainweb.org/sustainablefood/
You can read the full planetary diet guidelines titled The EAT-Commission, Healthy Diets From Sustainable Food

Sources, in The Lancet at
eatforum.org


## Vegetable tikka masala

A curry that all the family can eat never mind vegetarians only! Add Quorn if you want extra protein or try to find an Indian cheese called paneer - cube it up and stir it in at the end.

## SERVES 4

## INGREDIENTS

- 4 tablespoons rapeseed oil
- 2 medium onions, chopped
- 3 garlic cloves, crushed
- 1 tablespoon chopped fresh ginger
- 1 tablespoon paprika
- 2 teaspoons ground cumin
- 2 teaspoons ground coriander
- 1 teaspoon ground turmeric
- 400 g can chopped tomatoes
- 2 tablespoons tomato purée
- a squeeze of lemon juice
- 100 g chestnuts mushrooms, halved or quartered
- 1 medium onion chopped
- 2 peppers (any colour), seeded and roughly chopped
- 100 g small whole carrots, scrubbed
- 100 g fresh or frozen peas (thawed)
- chopped fresh coriander, to garnish
- basmati rice and naan breads to serve
- LoSalt and freshly ground black pepper to taste


## METHOD

1. Heat the tablespoon of rapeseed oil in a medium saucepan, add half the onions, garlic and ginger and cook over a medium heat for 3-4 minutes until softening and smelling good. Now add the paprika, cumin, coriander and turmeric and cook for 5 minutes more.
2. Stir in the chopped tomatoes, tomato purée and lemon juice and simmer for 10-15 minutes then blend with an electric blender.
3. Heat the remaining oil in large saucepan and onions. Fry the remaining onions for 5 minutes until softening, then add the peppers, carrots and mushrooms

## Quorn fajitas

With some Quorn in the freezer, this can be rustled up very quickly for a veggie supper, or for a group of hungry teens.

## SERVES 4 (two each) INGREDIENTS

- 2 tablespoons olive oil
- 1 red onion, thinly sliced
- 85 g chestnut mushrooms, quartered
- 1 green and 1 yellow pepper, seeded and sliced
- 250 g frozen Quorn pieces
- 2 teaspoons mild chili seasoning
- half a teaspoon turmeric
- 8 flour tortillas
- 6-8 tablespoons mayonnaise or soured cream
and cook for 5 minutes. Add the tikka masala sauce and simmer for 10 minutes or until the carrots are tender. Stir in the peas and heat through for 2-3 minutes. Taste and season with LoSalt and pepper.

4. Serve scattered with fresh coriander, with boiled basmati rice and a pile of warm naans.

- half an iceberg lettuce or 2 little gem lettuces, finely shredded
- sliced avocado sprinkled with chili flakes, to serve
- LoSalt and freshly ground black pepper to taste


## METHOD

1. Heat the oil in a large frying pan or wok and add the onion, mushrooms and peppers. Stir-fry for 2-3 minutes then add the Quorn. Sprinkle with spices and stir-fry for 2-3 minutes until the Quorn is hot all the way through. Season to taste with LoSalt and pepper.
2. Wrap the tortillas in kitchen foil and warm through in a hot oven at $200^{\circ} \mathrm{C} / 400^{\circ}$ F/Gas Mark 6 for about 5 minutes. Alternatively, dry fry in a frying pan for 1 minute on each side until lightly charred and warmed through.
3. Put everything in serving dishes in the middle of the table and let everyone help themselves to a tortilla, Quorn mix, shredded lettuce, mayo or soured cream and sliced avocado. Great family fun!

A big thank you to LoSalt for the delicious recipes.


The knowledge that a strong pulse felt at the wrist could predict early death dates back thousands of years．So too does the connection with the kidneys．But it was not until the beginning of the 20th century that blood pressure could be measured in clinical practice－ the development that would make blood pressure a central part of modern health care．

In the first instalment of this two－ part review，Professor Gareth Beevers introduces an ancient Chinese emperor，an Anglican clergyman and two clinicians who pioneered our thinking on the causes and consequences of hypertension，and their attempts to measure blood pressure accurately．


Huang Ti，A Chinese woodcut of Huang Ti， the Yellow Emperor of China．
With thanks to the Wellcome Collection．


## Huang Ti，the Yellow Emperor

Pride of place among our heroes must go to Huang Ti，the Yellow Emperor who reigned in China from 2698 to 2598 BCE．Exact details of his life are scant and shrouded in mythology but he is recognised as a philosopher who influenced early Chinese religion， culture and medicine．

His understanding of life was built on the concept of yin and yang．These are opposites which，when present together，create harmony in all things． Disharmony between yin and yang leads to all the problems of life， including disease．

His medical treatise，the Nei Ching Su Wên，tells us that all the organs of the body are either yin or yang．The kidneys and lungs are yin whilst the heart is yang．If there is something wrong with the kidneys then the heart will be affected and in turn will cause disease in the lungs．
＂After the kidneys have infected the heart，the heart forthwith returns the infection and passes it to the lungs where it becomes manifest by chills and fevers：death follows after three years．＂

He was spot on．We now know that almost all kidney diseases cause raised blood pressure，which can lead to enlargement of the heart and heart failure．This then causes congestion in the lungs and severe breathlessness．

Huang Ti also stated that：＂If too much salt is used in food the pulse hardens．．．When the heart pulse beats vigorously and the strokes are markedly prolonged，the corresponding illness makes the tongue curl up and the patient unable to speak．＂

Huang Ti was aware of the danger of eating too much salt and its effects on the volume and strength of the pulse, and that strokes were one of the consequences.

## The Reverend Stephen Hales FRS

The first measurement of blood pressure was 8 foot 3 inches of blood. Nowadays we measure it in mm of
mercury estimate blood pressure is subjective and open to error. The first actual measurement of blood pressure was by an Anglican clergyman, the Rev Stephen Hales in 1733. He was a fellow of Corpus Christi College, Cambridge, but spent most of his time as perpetual curate of the parish of Teddington, Middlesex.

In addition to his religious duties he was a researcher and inventor. He invented a windmill to ventilate Newgate prison - a source of great stench. As a respected botanist he investigated the transport of water and nutrients from plant roots, up the stems to the leaves. Perhaps because of his interest in the circulation in plants he then investigated the circulation in animals.

Hales arranged for a horse to be tied down to a gate so that he could insert a narrow brass tube into the crural artery at the top of its hind leg, close to its belly. He connected the brass tube to a long glass tube and observed that blood rose up to a height of 8 foot 3 inches. So, the first measurement of blood pressure was 8 foot 3 inches of blood. Nowadays we measure it in mm of mercury.

For this and other research, Hales was elected Fellow of the Royal Society (FRS), the highest accolade in British science. However, his friend and neighbour, the poet Alexander Pope, was horrified at the suffering endured by the horse in what we would now consider to be unethical research using live animals.

In 1836, Richard Bright, a respected physician, reported that over half of patients who had died of kidney disease also had enlarged hearts at post-mortem. He concluded that either there was some "quality" in the blood which caused the heart to enlarge or that "greater action" by the heart was needed to "force" the blood round the body. He was probably right on both counts. The "quality" could be the hormone angiotensin and the "greater action" could be due to high blood pressure.

This idea fitted in with the known hazards of a large volume pulse. At the time it was generally thought that all raised blood pressure was due to kidney disease. This condition was recognised as Bright disease (Maladie de Bright in France and Brightsche Krankheit in Germany). We would now classify it as hypertension secondary to chronic kidney disease.

## Dr Frederick Akbar Mahomed

Research into raised blood pressure was hampered by the lack of any method to measure it accurately. The problem was partly resolved by the invention of the sphygmograph. The principal of this apparatus was to amplify the pulse at the wrist using a mercury-filled pad attached by a system of springs to a $10-20 \mathrm{~cm}$-long lever.

The first marketed sphygmograph was created by Etienne Marey in France in 1859. The lever could be used to record the pulse wave on a smoked drum or paper. This had the added advantage that by pressing the mercury pad down onto the pulse he could measure the weight needed to obtain a reading in grams or ounces; this would give a crude measurement of the systolic blood pressure.

In 1868 a brilliant young man enrolled as a student at Guy's Hospital. His name was Frederick Henry Horatio Akbar Mahomed (although to his friends he was just called Akbar). His grandfather had migrated from India in 1783 and his grandmother and mother were European.

Akbar obtained a Marey sphygmograph, made several modifications (he loved gadgets) and set about measuring the pulse wave and the weight, in ounces, needed to obtain a tracing of the pulse wave.

Akbar Mahomed was soon able to confirm Bright's view that patients with kidney disease have raised "arterial tension" (blood pressure). He published his first paper on the subject in 1872.

Further research also demonstrated that this high 'arterial tension' also occurs in patients with no evidence of kidney disease. He was therefore the first person to describe what we now call essential hypertension - that is, hypertension not due to diseases of the kidney or other organs. This is, by far, the commonest type of hypertension.

By any criteria Akbar Mahomed was a genius. He became a consultant at Guy's Hospital and continued research into many conditions, including

tuberculosis. He started a national scheme to collect data on rare diseases where no single clinician would see sufficient cases to draw any conclusions on the causes or prognosis. He also proposed the creation of what
would have been our first national formulary of all medicines. Both these initiatives came to a halt when he died, tragically, at the age of 35 . British medicine lost a man who might have become our greatest-ever physician.


An early sphygmograph designed by Etienne Marey, who improved previous versions by making it portable.

With thanks to the Welcome Collection.

# Blood pressure numbers explained 

## A quick guide to healthy blood pressure numbers

You can get your numbers checked at your GP surgery or pharmacy or with a home monitor if you have one. Once you know your numbers, use our blood pressure chart to see what they mean and if your blood pressure is in the healthy range.
The chart is suitable for adults of any age, as the cut-off point for diagnosing high blood pressure doesn't change with age.

## How to use the blood pressure chart

Simply find your top number (systolic) on the left side of the chart and your bottom


As a general guide:
$140 / 90 \mathrm{mmHg}$ or over You may have high blood pressure

Most doctors use $140 / 90 \mathrm{mmHg}$ as the cut off for point for diagnosing high blood pressure (hypertension). This is the point where your risk of serious health problems goes up. They might prescribe medications and advise you to make changes to your lifestyle to bring your blood pressure down.

A one-off high reading doesn't necessarily mean you have high blood pressure. GPs like to take several readings over a number of weeks to make a diagnosis.

## What do these readings mean?

## $120 / 80 \mathrm{mmHg}$ up to $140 / 90 \mathrm{mmHg}$ Pre-high blood pressure

Also called high-normal blood pressure. This is not high blood pressure, but it is a little higher than it should be and means you could go on to develop high blood pressure. Try to make healthy lifestyle changes to lower it.

## $90 / 60 \mathrm{mmHg}$ up to $120 / 80 \mathrm{mmHg}$

 Ideal blood pressureAlso called normal blood pressure. Your blood pressure reading is healthy. At this level you have a much lower risk of heart disease and stroke. A healthy lifestyle will help you to keep it in the healthy range.

## $90 / 60 \mathrm{mmHg}$ or lower You may have low blood pressure

Low blood pressure usually isn't a problem, but it can sometimes make you feel faint or dizzy or could be a sign of another health problem. Your GP can talk to you about this.

# Meet the Trustees 

> Pauline Swift is a Consultant Nephrologist at Epsom and St. Helier University Hospitals NHS Trust, where she leads the clinical research programme. She's been a great support to us, especially with writing our new website. She's our Honorary Trustee and may well join the Board officially this year.


QWhat does it mean to be a Consultant

## Nephrologist?

As a Consultant in Nephrology I look after kidney patients and also run a blood pressure clinic in the hospital. We manage to combine patient care with research, which I think is really important.
We look after people with all five stages of kidney disease. From stage one with mild damage, up to stage five which requires dialysis or a kidney transplant.

QHow is kidney disease linked to blood pressure?
The most common cause of kidney disease is diabetes. But high blood pressure is becoming more common as a cause.

Renal vascular disease is also common, where the arteries leading to the kidneys become clogged and the kidneys can't get enough blood. This is associated with cardiovascular disease in blood vessels supplying the heart and brain too, leading to heart attacks and stroke. This is linked to high blood pressure.
Once you've got kidney disease, high blood pressure is one of the main things that makes it worse.

QCan you tell us a bit about your career? I started out in pharmacology working in research. I loved it and wanted to take it further and decided on a career in medicine. I discovered nephrology during my medical training and contacted Professor MacGregor, Blood Pressure UK Chairman, and we came up with a research project.

QWhat's happening in kidney research now? We're involved in over 50 clinical trials at the moment. We've just started one seeing if giving patients more information and support helps them stick to their medications, and if this leads to better health in the future.
I'm also working with Trustee
Rebecca Suckling to find out if eating less salt affects blood pressure in people with a kidney transplant - does it lower blood pressure and is it safe?
than what we shouldn't eat. Let's be positive

## We need to

 focus more on whatwe should eat rather

$\bigcirc$Do you enjoy working with kidney patients?
I love it. We see a real mix of patients. They can be acutely unwell, with kidney disease that is reversible and treatable, and we see chronic patients who need dialysis and transplants. We're with them for a long time and we get to know them very well. We're like a family, the renal unit and all of our patients.

QFor someone with high blood pressure, what can they do to look after their kidneys?
Lifestyle is very important. If you have tablets, take them every day and keep your salt intake low so they can have their maximum effect. I'm a fan of the DASH diet which is high in fruit and vegetables but low in saturated fat. Try to make meals yourself and eat some uncooked veg too.
We need to focus more on what we should eat rather than what we shouldn't eat. Let's be positive.

QWhy are fruit and veg so good for you?
Interestingly, vitamin supplements which contain all the vitamins you find in fruit and veg - have been proven to have no benefit. But fruit and veg have been proven to have a benefit. We don't know why exactly. It could be the potassium but we can only speculate. What we do know is that something in fruit and veg works. What do you like to do for fun? I have two children and I'm married to a surgeon. We work quite hard, but in our limited free time we like to go out with friends, have meals out and walk the dog. I have a trip to Jordan booked to go trekking through the desert. I can't wait for that!

We know too much salt in the diet is a major health issue, increasing our risk of high blood pressure, but the good news is we can make small changes ourselves to reduce the risk.

LoSalt, the UK's leading reduced sodium salt which has $66 \%$ less sodium than regular salt, asked GP Dr Sarah Jarvis to give us the 'LoDown' on how you can get to Know Your Numbers.

## We've all heard of blood pressure, but what actually is it?

Your body needs oxygen to function, and to do that it needs blood. Your blood pressure is the pressure inside your system when it's being pumped round your body to deliver that vital oxygen to your heart.

## What are the dangers of high blood pressure?

Raised blood pressure is known as hypertension and this is one of the biggest causes of heart attacks and strokes in the UK today. High blood pressure is often known as 'the silent killer' because it frequently has no symptoms, so you may not even know you have it and it affects approximately one in four adults in the UK.

## How does blood pressure work?

When you have your blood pressure measured there will be two numbers, one over the other. The top number, called your Systolic blood pressure, is the pressure inside your system when your heart is pumping blood out. The lower level, called the Diastolic blood pressure, is the pressure inside your system when your heartis resting between beats.

## What does it mean to 'know your numbers' and why do I need to know them?

Knowing your numbers relates to knowing your blood pressure measurements. The classic normal blood pressure is about 120 for the top level, over 80 for the bottom - but anything below about 140 for the top and 90 for the bottom is fine for most people. Measurements above 160 for the top and 100 for the bottom, is much more of a cause for concern. You need to know your blood pressure numbers because it doesn't cause any symptoms. High blood pressure doesn't make you feel ill - but all the time you've got it you're living with a higher risk of heart attack and strokes.

## How do I measure my blood pressure?

Your GP, practice nurse or pharmacist can check your blood pressure for you. Alternatively, you can check your own blood pressure using a machine that you can buy ata number of outtets, as long as it's been validated.

## What can I Ido if I have high blood pressure?

One of the quickest and easiest ways to lower your blood pressure is to reduce your salt intake. All salt, whether its table salt, rock salt, sea salt or even Pink Himalayan salt, is $100 \%$ sodium chloride and it's the sodium which is linked to high blood pressure. If you have to use salt, then I urge you to season with sense and go for a reduced sodium aternative like LoSalt. Other simple lifestyle changes such as cutting down on processed food and cooking from scratch can also help reduce your sodium intake.

Chicken \& Asparagus Pasta Salad

## Serves: 2 Prep: 15 mins Cook: 20 mins

150g pasta - any shape
12 asparagus spears, trimmed and cut into 2 cm lengths
1 roasted red pepper in water from a jar, drained and cut into strips
150 g skinless roast chicken, shredded
Drizzle balsamic vinegar
Drizzle extra virgin olive oil
Squeeze of lemon juice
Snipped fresh chives, to garnish
Freshly ground black pepper
Pinch of LoSalt

- Cook the pasta according to the pack instructions, adding the asparagus to the pan for the last 2 min of the cooking time. Drain well, then transfer to a mixing bowl.
- Add the red pepper, chicken and balsamic vinegar to the pasta and asparagus and toss together.
- Serve the chicken and asparagus pasta salad sprinkled with ground black pepper, a pinch of LoSalt, drizzle of olive oil, squeeze of lemon juice and snipped chives.


## 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


## Information \& publications

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



## Introducing high blood pressure

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

## 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.

Blood Pressure UK Helping you to lower your blood pressure


## Getting the most from

 blood pressure medicinesMost 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' leafiet into 32 languages. They are all available to download from our website only.

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 02078826255 for your copy or visit www.bloodpressureuk.org

