
FREE
PLANT
BASED
COOKING
CLASSES
2.0
Targeted at Hypertension, Type 2 Diabetes & Heart Diseases
To be held on:
Thursday 13th June 6-8pm
Sunday June 2nd, 9th, 16th, 23rd & 30th 6-8pm

Cooking Class 2.0 – Outline

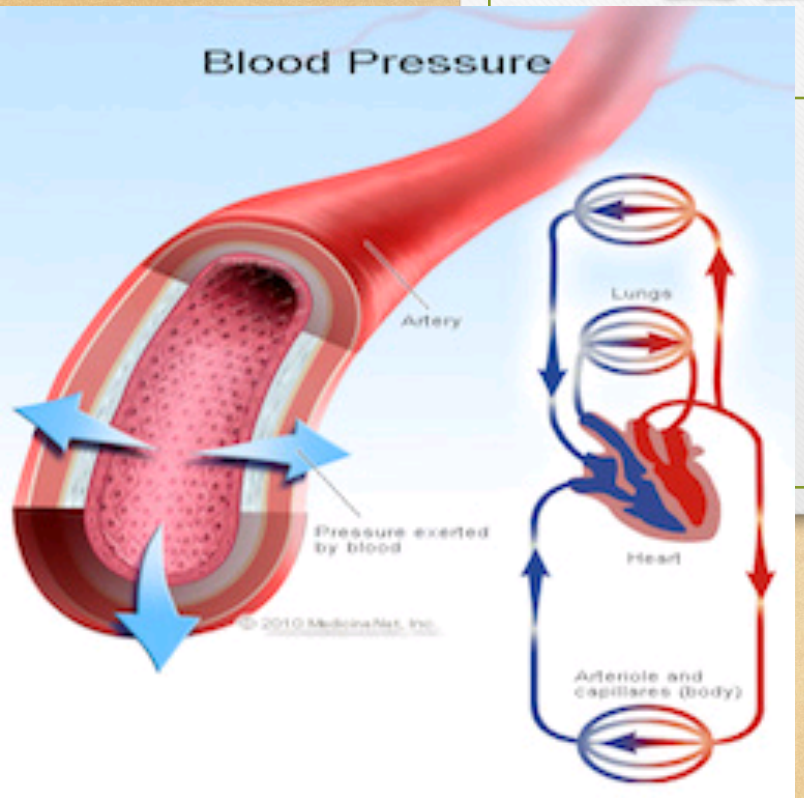
Sessions	Topics	Presenters
1 – Sun. June 2nd	Hypertension I	DA, MD
2 – Sun. June 9th	Hypertension II	DA, KL
3 – Thu. June 13th	Diabetes T2 I	DA, MD
4 – Sun. June 16th	Diabetes T2 II	DA, KL
5 – Sun. June 23th	Heart Diseases I	DA, KL
6 – Sun. June 30th	Heart Diseases II	DA, MD

Cooking Class 2.0 – Programme Outline

1. Welcome/Opening Remarks & Prayer ..... 5 mins.
2. Presentation on Targeted Disease & Role of Diet .... 25 mins.
3. Practical Demo – Cooking, Juicing, Herbs, etc. .... 60 mins.
4. Food tasting and Q&As .... 15 mins.
5. Closing Remarks & Prayer ..... 5 mins.

Hypertension

The Silent Killer



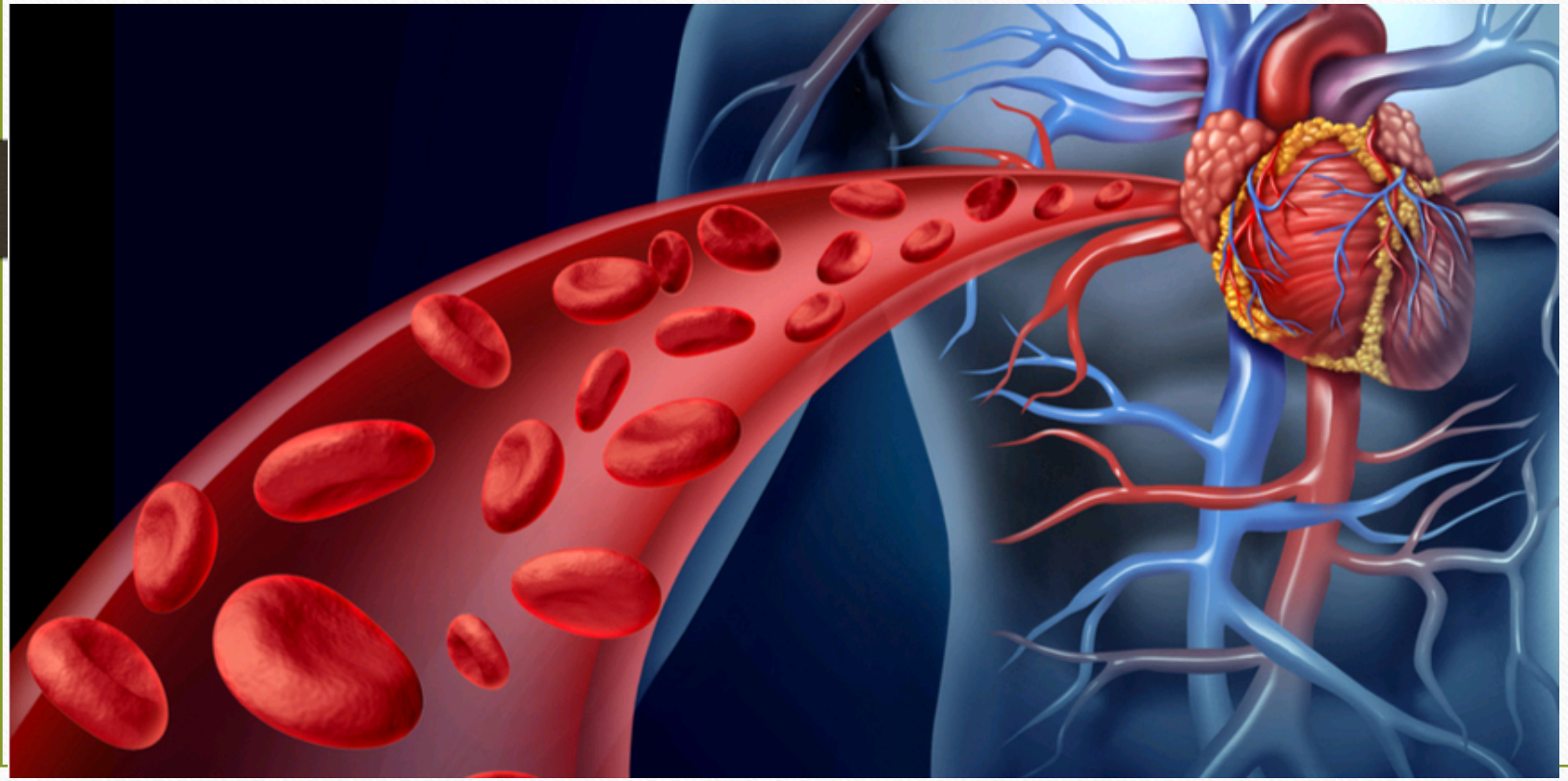
Outline

1. Background to Cooking Class 2.0 Series
2. Hypertension: What Exactly Is It?
3. Hypertension: Why 'Silent Killer'?
4. Hypertension: England/UK Facts & Statistics
5. Causes of High Blood Pressure (HBP)
6. What about Medication: Antihypertensives
7. What Are the Alternatives?
8. Natural Remedies for Hypertension: Diet, Exercise, etc.

Background to the Cooking Class Sessions

- ❑ Why emphasis on *plant-based diet*?
- ❑ Most optimised (nutrition) for the human body
- ❑ Improves blood lipids (cholesterol & fat) levels
- ❑ Plants have phytochemicals which benefits body's systems
- ❑ Lowers risk of diseases (e.g. hypertension, strokes, heart disease, diabetes, etc.)
- ❑ The original diet (Bible – Gen. 1:29; 3:18)

Hypertension: What Is 'Hypertension'?



"Chronically elevated blood pressure – higher above optimal human blood pressure"

KNOW YOUR BLOOD PRESSURE
—AND WHAT TO DO ABOUT IT

By AMERICAN HEART ASSOCIATION NEWS

The newest guidelines for hypertension:

NORMAL BLOOD PRESSURE
*Recommendations: Healthy lifestyle choices and yearly checks.

ELEVATED BLOOD PRESSURE
*Recommendations: Healthy lifestyle changes, reassessed in 3-6 months.

HIGH BLOOD PRESSURE / STAGE 1
*Recommendations: 10-year heart disease and stroke risk assessment. If less than 10% risk, lifestyle changes, reassessed in 3-6 months. If higher, lifestyle changes and medication with monthly follow-ups until BP controlled.

HIGH BLOOD PRESSURE / STAGE 2
*Recommendations: Lifestyle changes and 2 different classes of medicine, with monthly follow-ups until BP is controlled.

**Individual recommendations need to come from your doctor.*

Source: American Heart Association's journal Hypertension
Published Nov. 13, 2017

Hypertension: Why ‘Silent Killer’?

High Blood Pressure or Hypertension *is known as the silent killer. It is a condition that occurs without symptoms for many years and in most cases the cause is unknown.*

fitnessprofessionalonline.com

More than 5.5 million

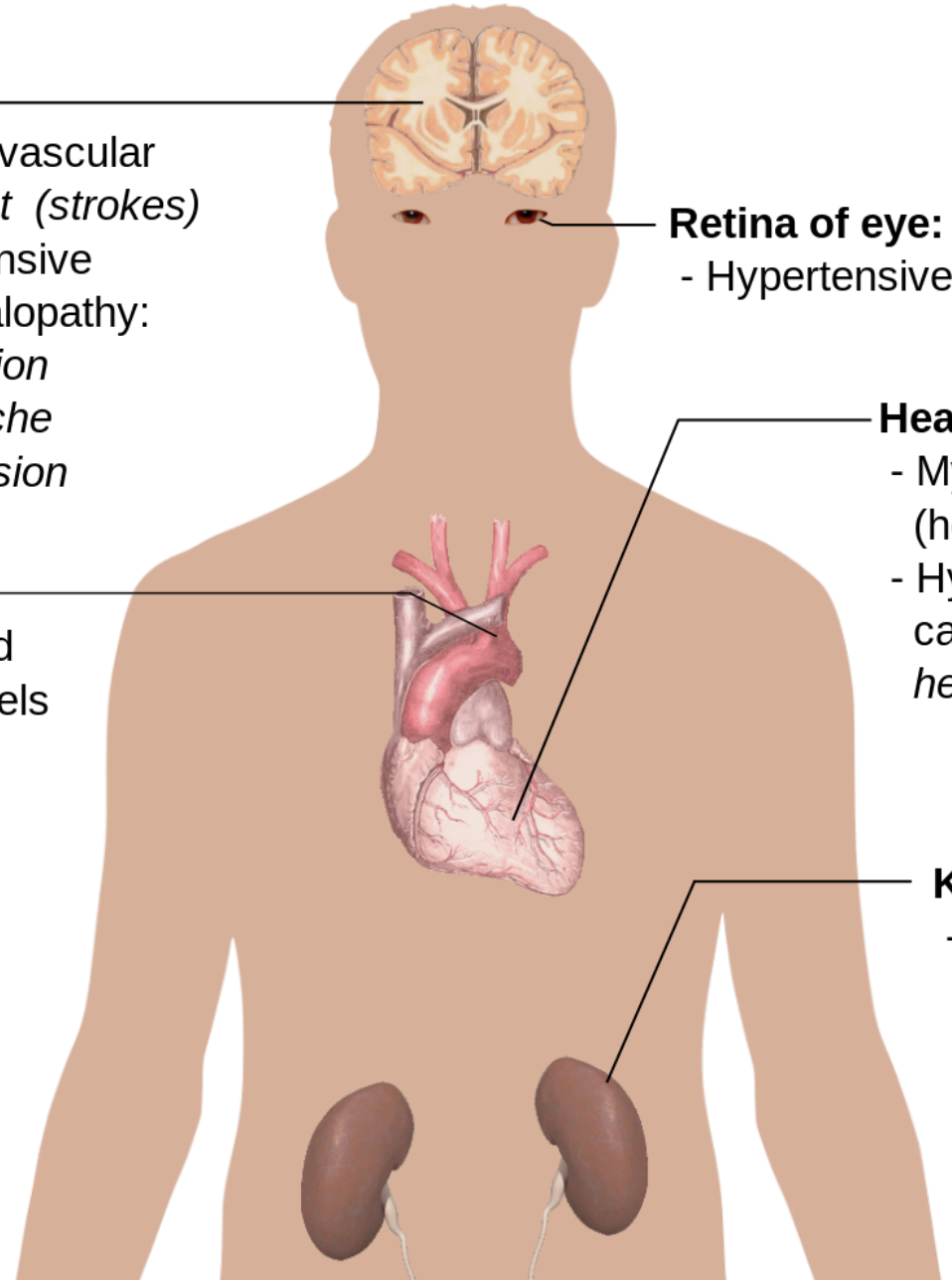
people in England have undiagnosed high blood pressure

For every 10 people who are diagnosed with high blood pressure,

A further 7 people remain undiagnosed and untreated

Main complications of persistent

High blood pressure



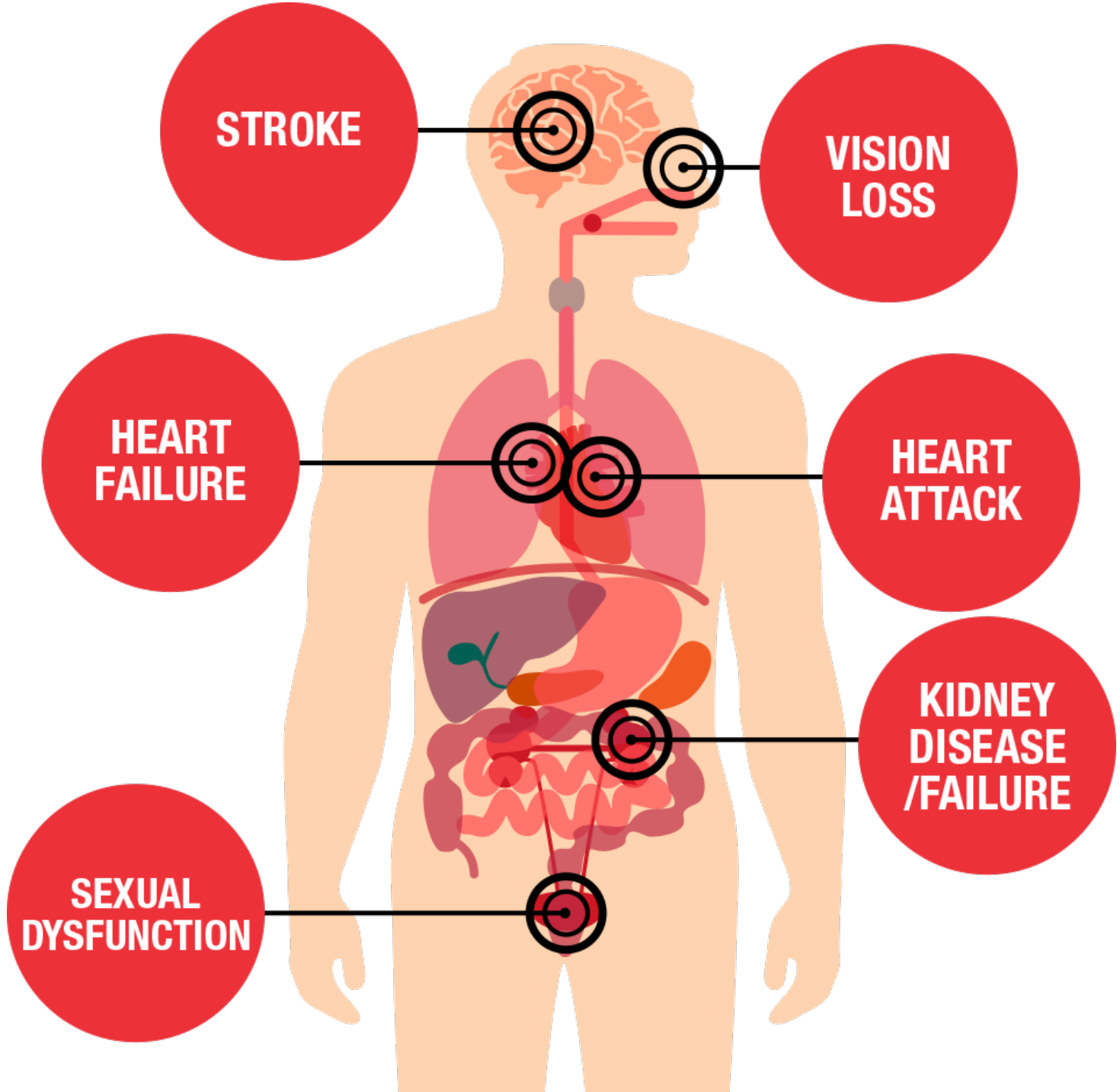
Brain:
- Cerebrovascular *accident (strokes)*
- Hypertensive encephalopathy:
  -confusion
  -headache
  -convulsion

Blood:
- Elevated sugar levels

Retina of eye:
- Hypertensive retinopathy

Heart:
- Myocardial infarction (heart attack)
- Hypertensive cardiomyopathy: *heart failure*

Kidneys:
- Hypertensive nephropathy: *chronic renal failure*


STROKE
VISION LOSS
HEART FAILURE
HEART ATTACK
KIDNEY DISEASE /FAILURE
SEXUAL DYSFUNCTION

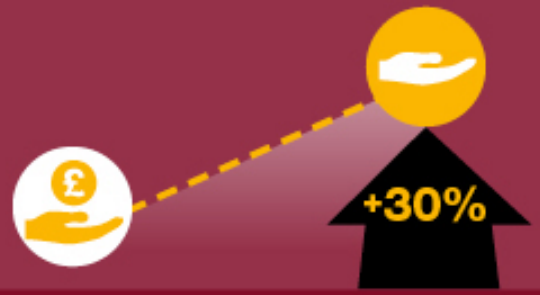
Public Health England

Healthmatters High blood pressure in England

High blood pressure affects **more than 1 in 4** adults in England

High blood pressure is the **3rd biggest risk factor** for premature death and disability in England after smoking and poor diet

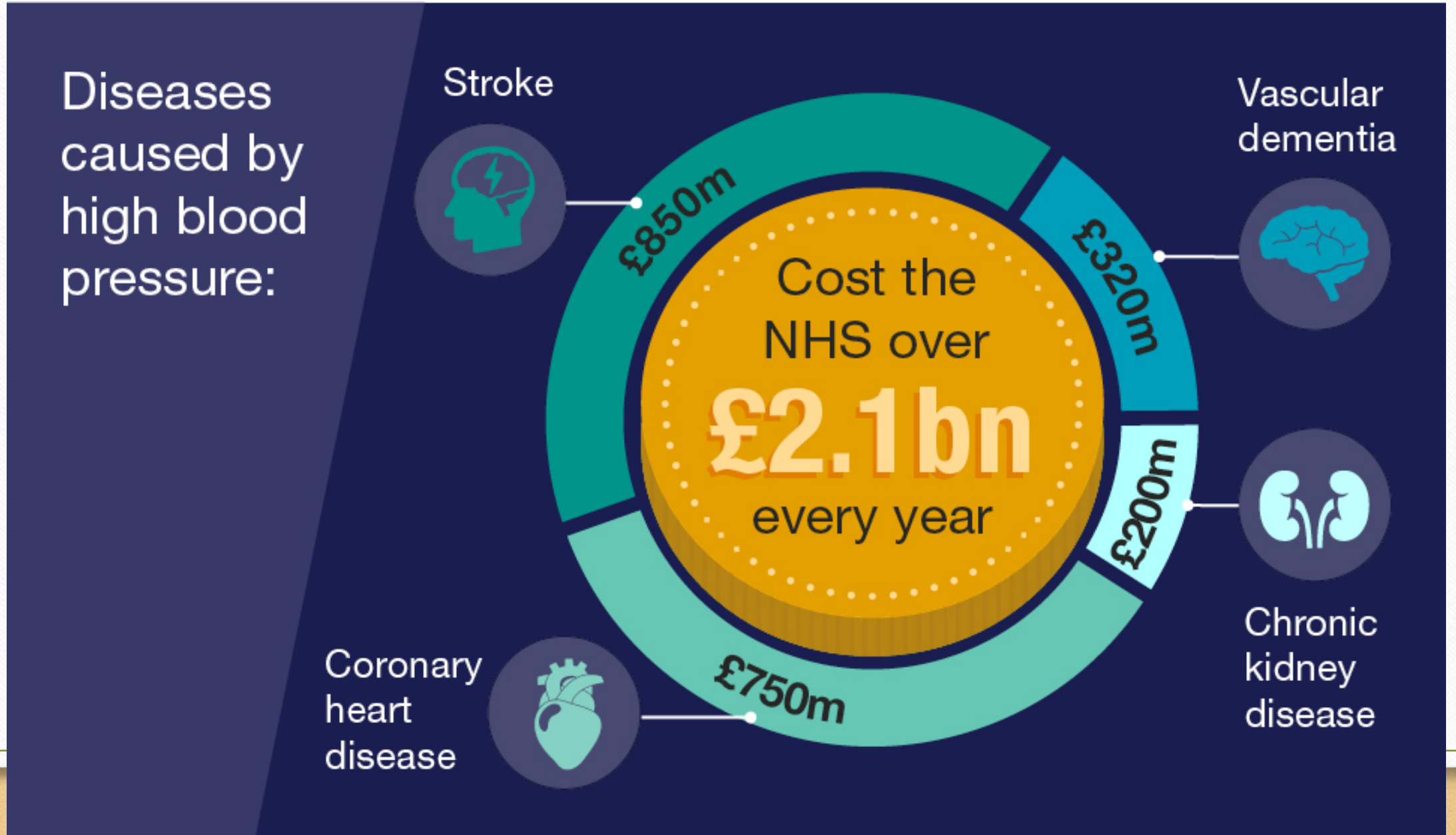
People from the most deprived areas in England are **30%** more likely than the least-deprived to have high blood pressure



At least half of all heart attacks and strokes are associated with high BP and it is a major risk factor for chronic kidney disease, heart failure and dementia

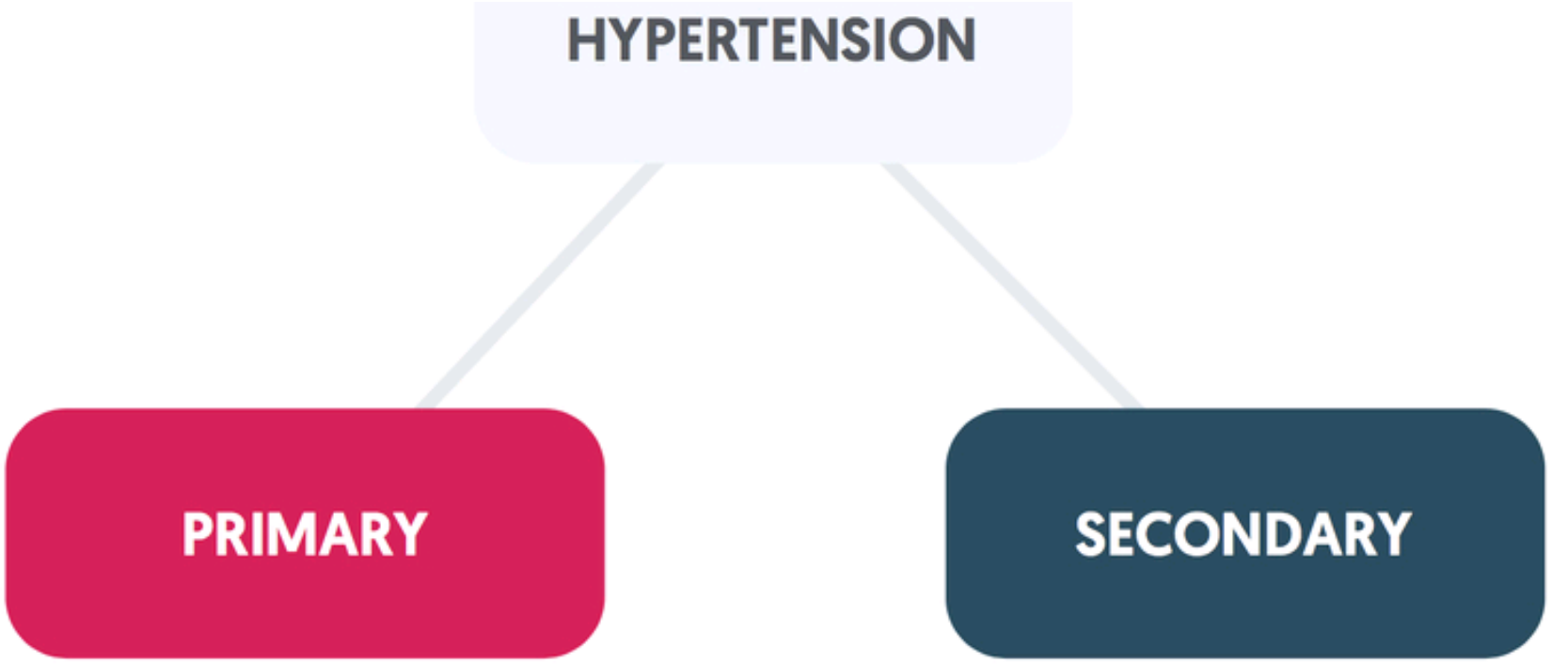
Public Health England

Healthmatters Costs to the NHS



Hypertension: Causes of ‘HBP’

Classification of Hypertension

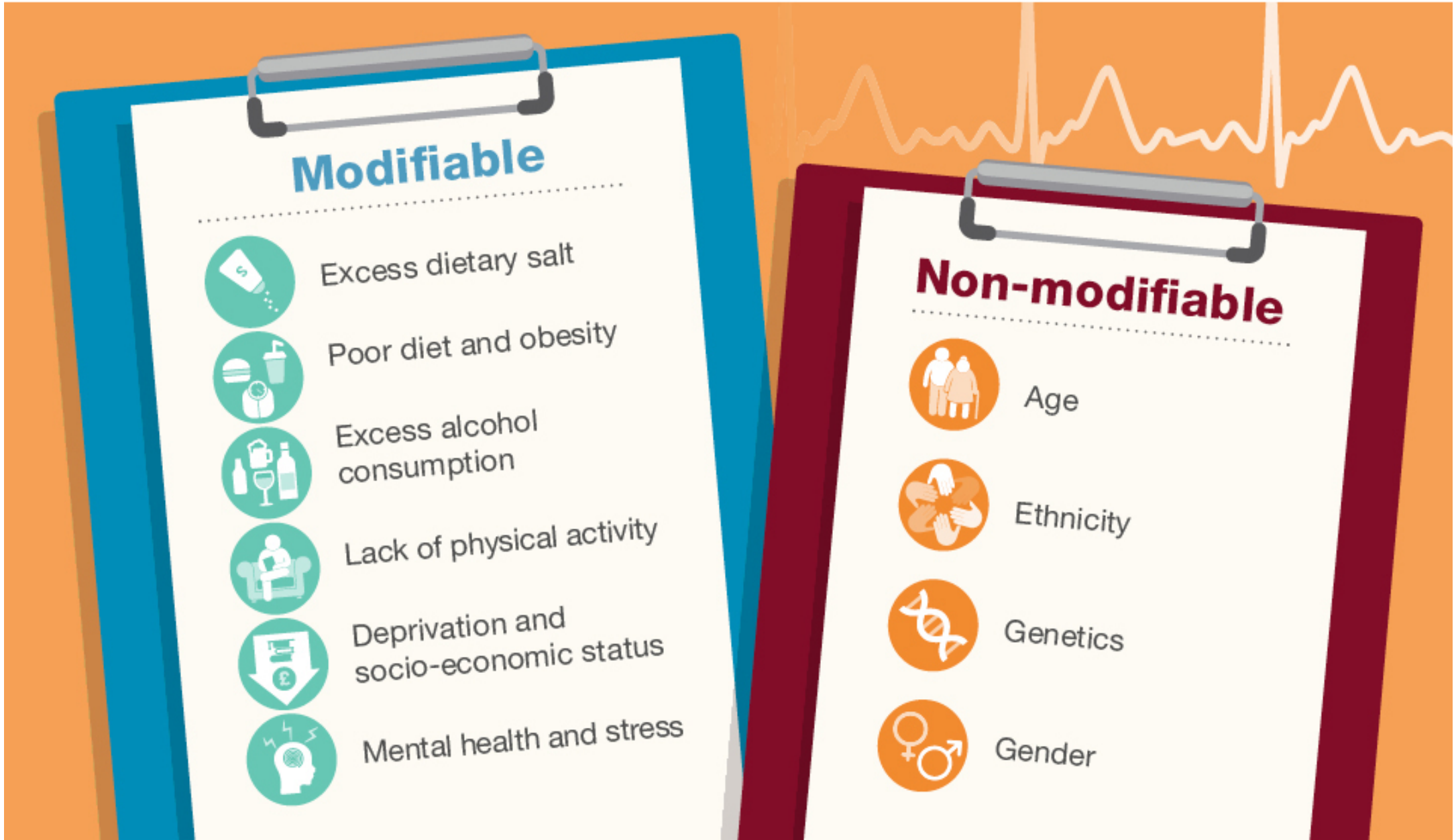


- Essential or idiopathic HTN.

- Renal
- Endocrine
- Other (e.g. pregnancy, drugs)

Public Health England

Healthmatters Risk factors for high blood pressure



Risk Factors For Primary Hypertension

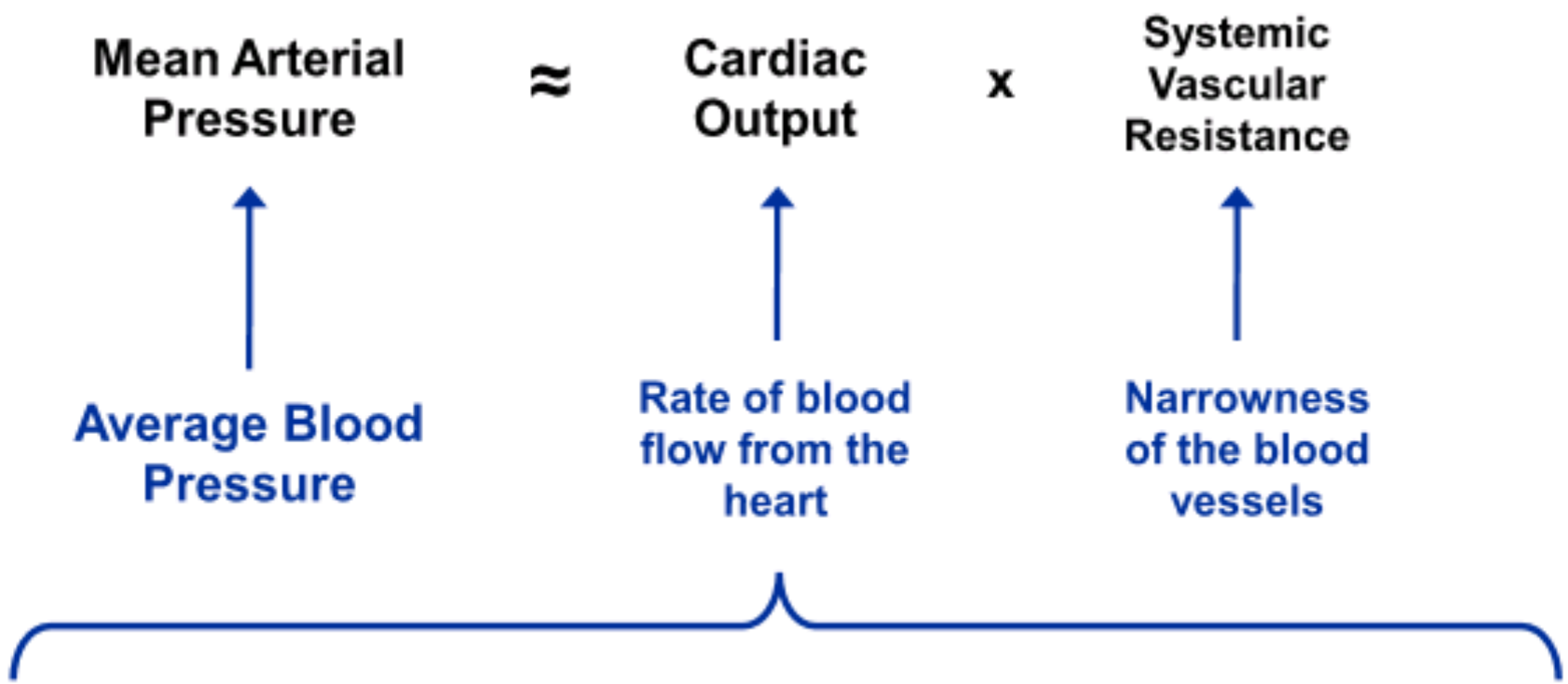
Modifiable

- Obesity
- Smoking
- Sedentary lifestyle
- Excessive dietary sodium intake
- Excessive alcohol intake
- Low dietary potassium intake?

Non-Modifiable

- Age (peak age of onset in 50s and 60s)
- Family history (particularly parent)
- Black race

Pathogenesis of Primary Hypertension



Cardiac output is dependent upon:

- **Heart rate (i.e. how fast the heart is pumping)**
- **Myocardial contractility (i.e. how strongly the heart is pumping)**
- **Diastolic blood volume (i.e. how much blood is in the heart when it pumps)**

Hypertension: Causes of ‘HBP’

Pathogenesis of Primary Hypertension

Therefore, elevated blood pressure must necessarily be due to one or more of the following:

- **Increased heart rate**
- **Increased myocardial contractility**
- **Increased blood volume**
- **Increased arterial constriction**

Hypertension: Causes of 'HBP'

Pathogenesis of Primary Hypertension

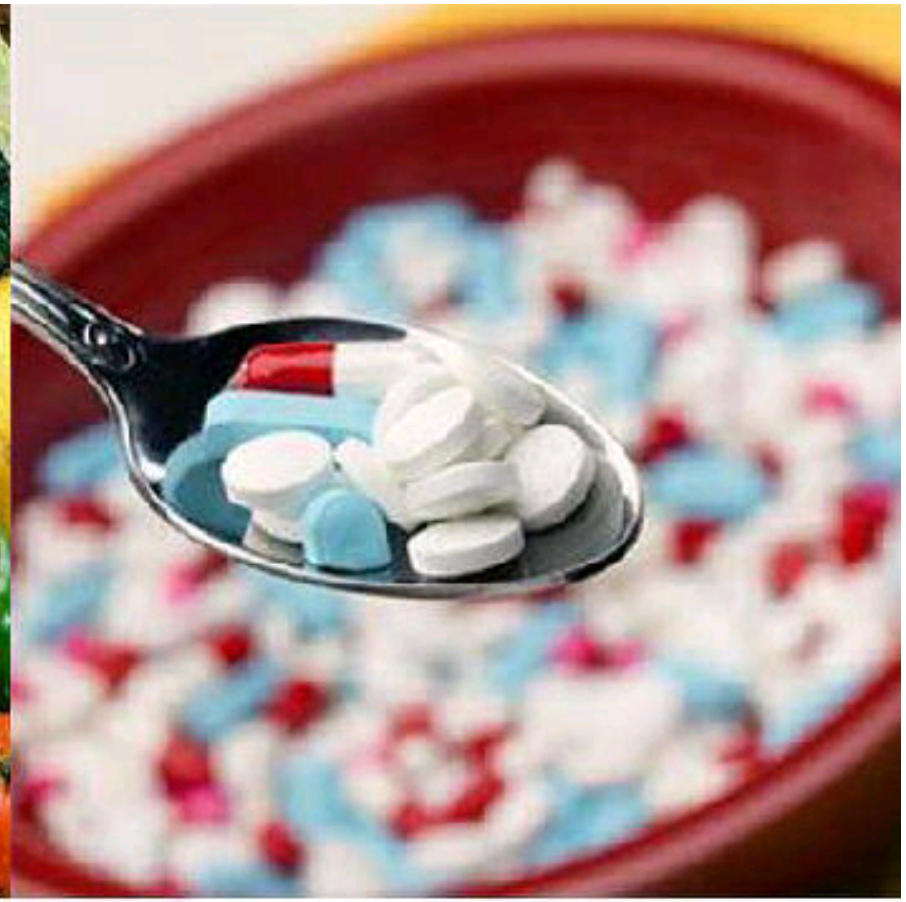
Major physiologic systems responsible for hypertension:

- **Renin-angiotensin-aldosterone system (RAAS)**
- **Sympathetic nervous system**

Other probable contributors include:

- **Endothelial dysfunction (e.g. endothelin 1 dysregulation, impairment of nitric oxide synthesis, oxidative stress)**
- **Cytokine dysregulation**

What of Medication?

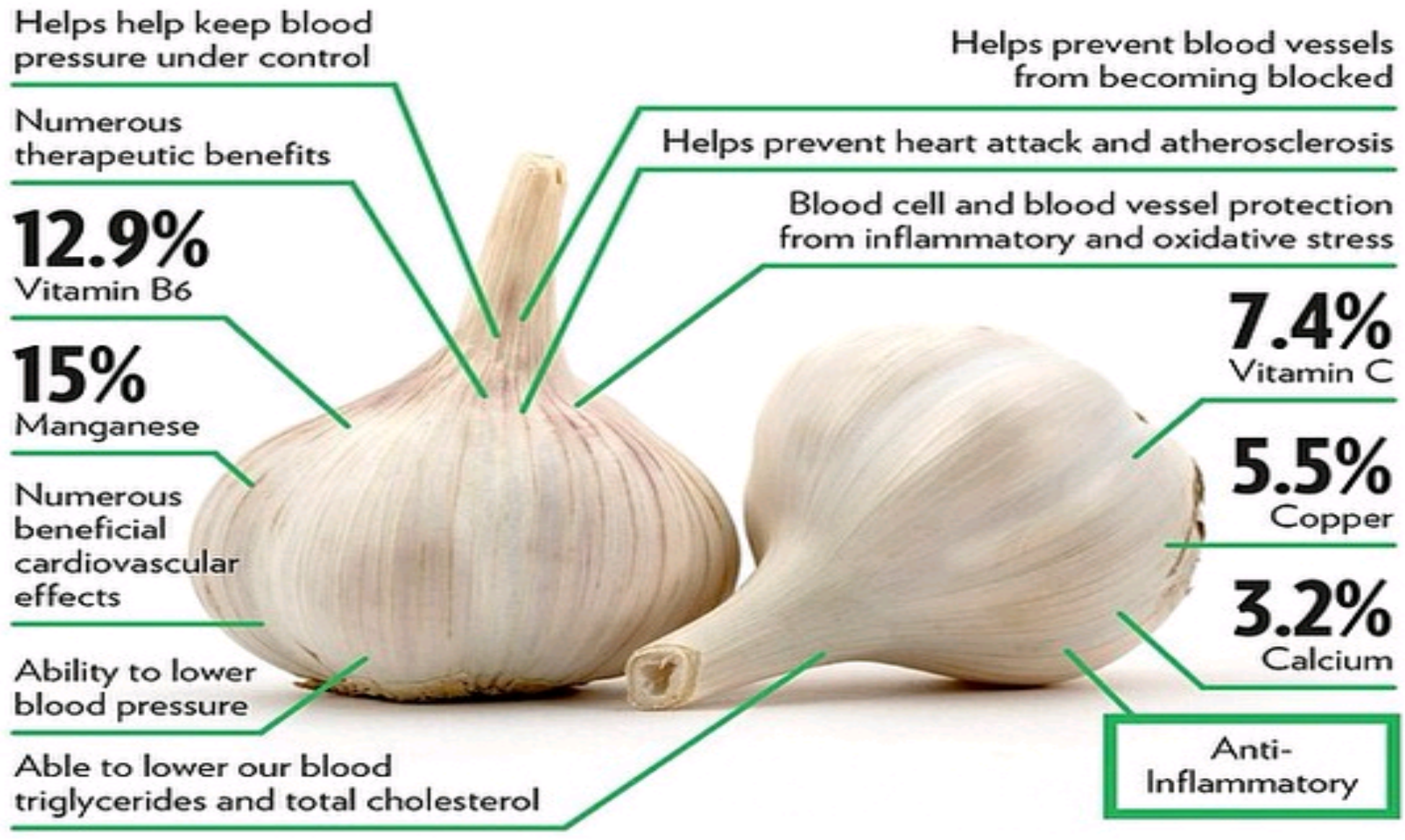


Are you healing yourself long term or are you just covering up the symptoms?

Garlic

GARLIC

facts of HEALTH.com



- Ried K et al., Effect of garlic on blood pressure: A systematic review and meta-analysis, BMC Cardiovascular Disorders 2008, **8**: 13 (www.biomedcentral.com)

- The analysis identified 11 previous studies of garlic supplements and blood pressure. In most of this studies, participants **took the garlic in powdered form**, in doses ranging from **600 mg to 900 mg daily**. The length of the studies ranged from **12 to 23 weeks**.

- In hypertensives, garlic reduced systolic BP by 8.4 mmHg and diastolic by 7.3 mmHg

- The higher the person's blood pressure at the beginning of the study, the more their blood pressure was reduced.

- **Garlic supplements** contain less of the **active ingredient, allicin**, than **a fresh clove of garlic**. A fresh clove of garlic can contain anything from 5 mg to 9 mg of allicin. The supplement much less.

Beetroot

***Hypertension*. Author manuscript; available in PMC 2015 February 01.**

Published in final edited form as:
Hypertension. 2015 February ; 65(2): 320–327. doi:10.1161/HYPERTENSIONAHA.114.04675.

Dietary nitrate provides sustained blood pressure lowering in hypertensive patients: a randomized, phase 2, double-blind, placebo-controlled study

Vikas Kapil[1], **Rayomand S Khambata**[1], **Amy Robertson**[1], **Mark J Caulfield**[1], and **Prof Amrita Ahluwalia**[1,*]

[1]William Harvey Research Institute, Barts BP Centre of Excellence, NIHR Cardiovascular Biomedical Research Unit at Barts, Barts and the London School of Medicine and Dentistry, Queen Mary University of London, London

Pomegranate

Pharmacological Research
Volume 115, January 2017, Pages 149-161

Effects of pomegranate juice on blood pressure: A systematic review and meta-analysis of randomized controlled trials. Amirhossein Sahebkar et al.

Abstract

Punica granatum L. (Pomegranate) has been claimed to provide several health benefits. Pomegranate juice is a **polyphenol**-rich fruit juice with high antioxidant capacity. Several studies suggested that pomegranate juice can exert antiatherogenic, antioxidant, antihypertensive, and anti-inflammatory effects. Nevertheless, the potential cardioprotective benefits of pomegranate juice deserve further clinical investigation. To systematically review and meta-analyze available evidence from randomized placebo-controlled trials (RCTs) investigating the effects of pomegranate juice consumption and blood pressure (BP). Quantitative data synthesis from 8 RCTs showed significant reductions in both systolic and diastolic BP after pomegranate juice consumption. Effects on SBP remained stable to sensitivity analyses. Pomegranate juice reduced SBP regardless of the duration

Hawthorn

Hawthorn Helps with Both Hypertension & Hypotension

- The leaves, berries, and flowers of hawthorn plant are used to make medicine.
- Hawthorn can help improve the amount of blood pumped out of the heart during contractions, widen the blood vessels, and increase the transmission of nerve signals.
- Hawthorn also seems to have blood pressure-lowering activity... It seems to cause relaxing of the blood vessels farther from the heart. It seems that this effect is due to a component in hawthorn called proanthocyanidin.
- Research suggests that hawthorn can lower cholesterol, low density lipoprotein (LDL, or "bad cholesterol"), and triglycerides (fats in the blood). It seems to lower accumulation of fats in the liver and the aorta. Hawthorn fruit extract may lower cholesterol by increasing the excretion of bile, reducing the formation of cholesterol, and enhancing the receptors for LDLs. It also seems to have antioxidant activity.

https://www.webmd.com/vitamins/ai/ingredientmono-527/hawthorn

Coconut Water

Coconut Water and Hypertension

- Coconut water (94% water) vs. Coconut milk (50% water; more fat).

One cup (240 ml) contains **46 calories**, as well as (2):

Carbs: 9 grams
Fiber: 3 grams
Protein: 2 grams
Vitamin C: 10% of the RDI
Magnesium: 15% of the RDI
Manganese: 17% of the RDI
Potassium: 17% of the RDI
Sodium: 11% of the RDI
Calcium: 6% of the RDI

- In one small study in people with high blood pressure, coconut water improved systolic blood pressure in 71% of participants.
- contains an impressive 600 mg of potassium in 8 ounces (240 ml). Potassium has been shown to lower blood pressure in people with high or normal blood pressure.
- Animal study found that coconut water has anti-thrombotic activity, which means it may prevent the formation of blood clots.

https://www.healthline.com/nutrition/8-coconut-water-benefits#section2

Ginger

Ginger & Hypertension

Lower Cholesterol

lower overall blood cholesterol and LDL, which can contribute to sticky atherosclerotic plaque. This creates blockages that can contribute to HBP by restricting the inner diameter of blood vessels and arteries, and reduce elasticity.

Fewer Blood Clots (Ginger contains natural salicylates)

Prevents blood clots from forming in your arteries and blood vessels. Blood clots can restrict or prevent blood from flowing through your circulatory system, which can lead to hypertension. May also help prevent heart attacks and strokes.

Side Effects

Consuming ginger root may cause nausea or stomach upset. You may also experience heartburn if you use this herb.

https://www.livestrong.com/article/297975-the-effects-of-ginger-on-high-blood-pressure/

Cayenne Pepper (Capsaicin)

Cayenne

Red pepper also is known as cayenne pepper and has been used as a cooking spice, food and medicine for thousands of years. **Capsaicin is the compound** that gives cayenne its spicy flavour, and this substance also has pain-relieving properties.

Cayenne and Hypertension

A 2010 study published in "Cell Metabolism" found that a receptor called TRPV-1 was activated in mice when they consumed capsaicin, which lowered their blood pressure. Another study published in "Current Medicinal Chemistry Cardiovascular Hematological Agents" in 2003 found that capsaicin affects sensory nerves that work with neuro-hormonal systems to help lower blood pressure.

Considerations

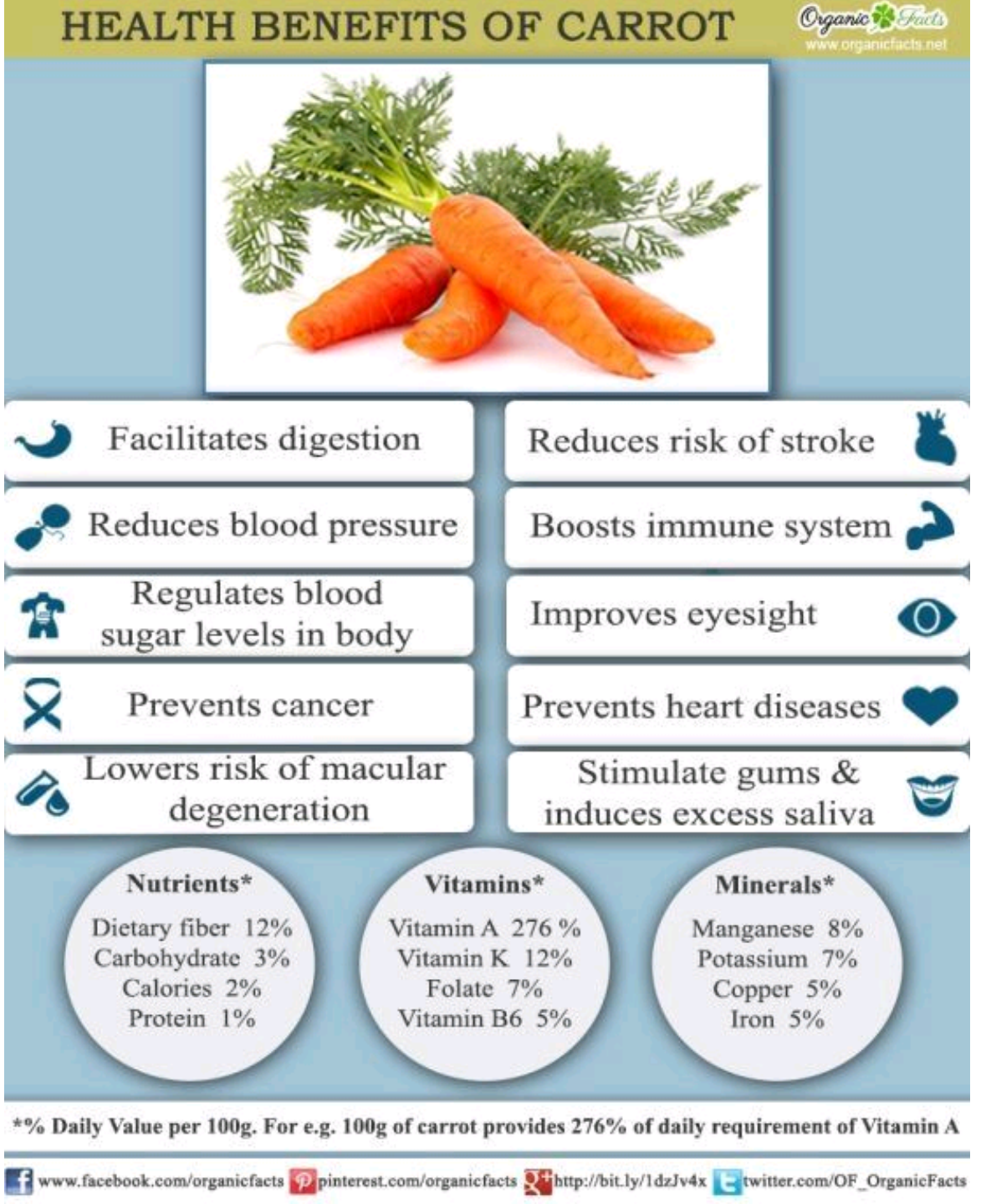
It can interact with certain medications and cause adverse effects, so tell your doctor about any other medications and supplements you are taking.

https://www.livestrong.com/article/476202-cayenne-pepper-and-high-blood-pressure/

Carrots

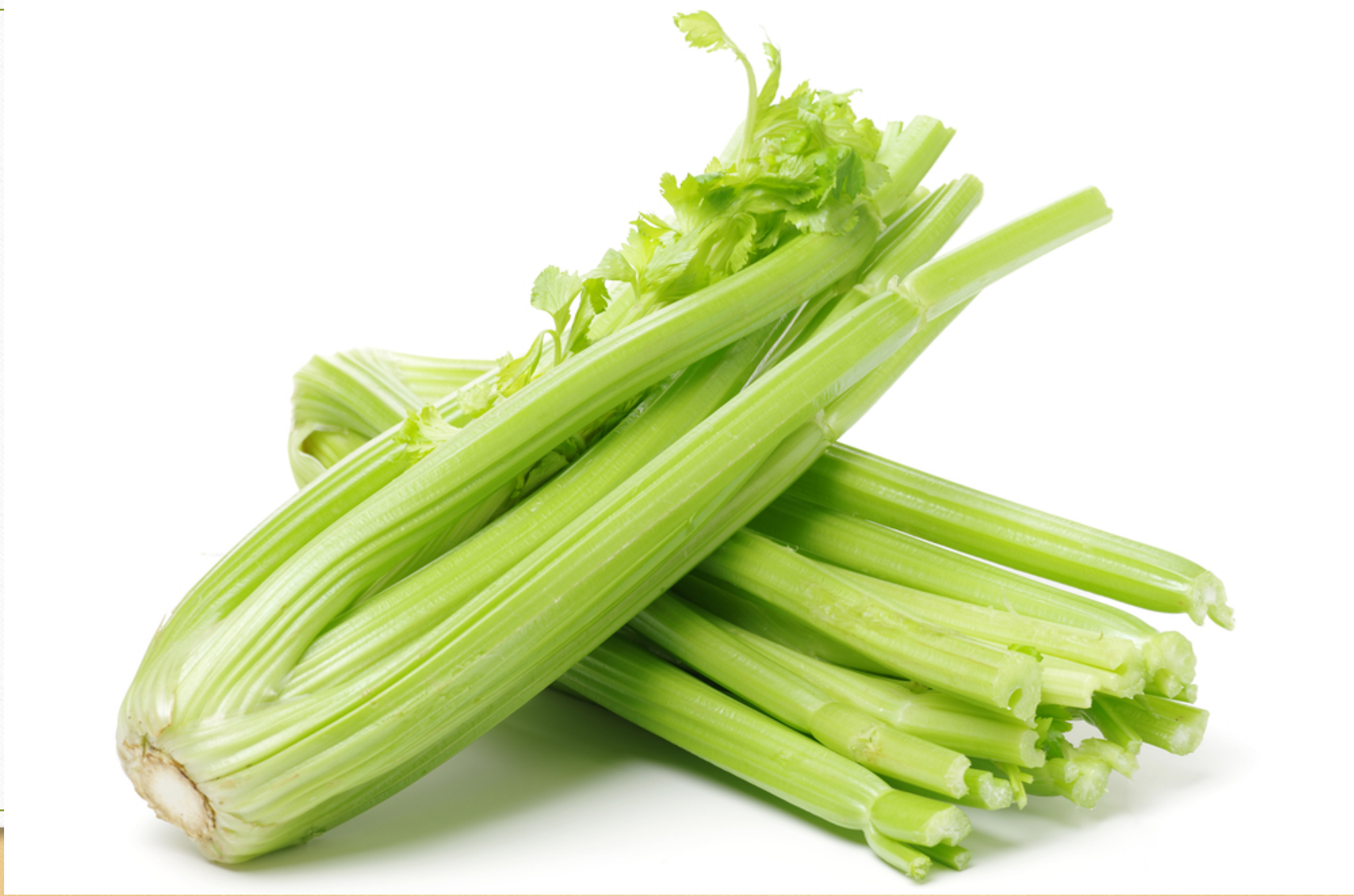
Carrot (Juice) and Hypertension

- The nutrients present in **carrot** juice, including **fiber, potassium, nitrates, and vitamin C** could have contributed to the effect seen in lowering systolic **blood pressure**



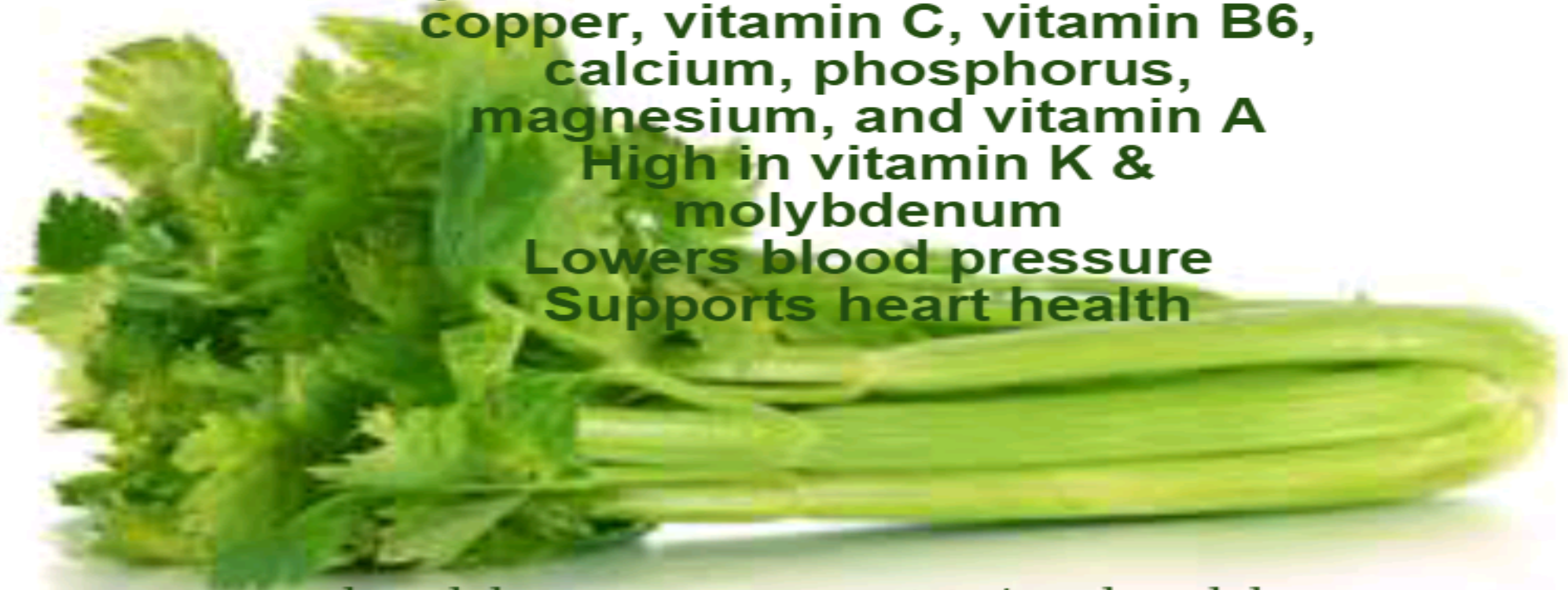
Nutr J. 2011; 10: 96.
Published online 2011 Sep 24. Drinking carrot juice increases total antioxidant status and decreases lipid peroxidation in adults. Andrew S Potter et al.

Celery



Celery: Health Benefits

Aids digestion
Anti fungal
Anti inflammatory
Anti oxidant
Excellent diuretic
Good source of : folate, potassium, fiber, manganese, pantothenic acid, vitamin B2, copper, vitamin C, vitamin B6, calcium, phosphorus, magnesium, and vitamin A
High in vitamin K & molybdenum
Lowers blood pressure
Supports heart health



Tomatoes

Tomatoes and Hypertension

- **Tomatoes** are the major dietary source of the antioxidant lycopene, which has been linked to many health benefits, including reduced risk of heart disease and cancer. They are also a great source of vitamin C, potassium, folate, and vitamin K

Here are the nutrients in a small (100-gram) raw tomato:

Calories: 18
Water: 95%
Protein: 0.9 grams
Carbs: 3.9 grams
Sugar: 2.6 grams
Fiber: 1.2 grams
Fat: 0.2 grams

Chlorogenic acid

A powerful antioxidant compound, chlorogenic acid may lower blood pressure in people with elevated levels

https://www.healthline.com/nutrition/foods/tomatoes#plant-compounds

Sesame & Sesame Seed Oil

Health Benefits of Sesame Seed

Organic Facts
www.organicfacts.net

Nutrients*
Dietary Fiber 47%
Protein 35%
Calories 29%
Carbohydrate 8%

Vitamins*
Thiamin 53%
Vitamin B6 40%
Folate 24%
Niacin 23%

Minerals*
Copper 204%
Manganese 123%
Calcium 98%
Magnesium 88%

- Helps to prevent diabetes
- Reduces risk of cancer
- Aids in improving bone health
- Rich in anti-inflammatory properties
- Facilitates digestion and prevents constipation
- Boosts oral health, cellular growth and metabolic function
- Helps to reduce risk of cardiovascular diseases and hypertension
- Reduces signs of premature aging and strengthens muscle tissue and hair
- Beneficial in protecting DNA from harmful effects of radiation caused by chemotherapy and radiotherapy

Caution: Excessive consumption may cause irritation in stomach and colon

*% Daily Value per 100g. For e.g. 100g of sesame seeds provide 53% of daily requirement of thiamin.

YALE JOURNAL OF BIOLOGY AND MEDICINE 79 (2006), pp.19-26.

ORIGINAL CONTRIBUTION

Effect of Sesame Oil on Diuretics or ß-blockers in the Modulation of Blood Pressure, Anthropometry, Lipid Profile, and Redox Status

D. Sankar,[a*] M. Ramakrishna Rao,[b] G. Sambandam,[c] and K. V. Pugalendi[d]

The study was undertaken to investigate the effect of sesame oil in hypertensive patients who were on antihypertensive therapy either with diuretics (hydrochlorothiazide) or ß-blockers (atenolol). Thirty-two male and 18 female patients aged 35 to 60 years old were supplied sesame oil (Idhayam gingelly oil) and instructed to use it as the only edible oil for 45 days. Blood pressure, anthropometry, lipid profile, lipid peroxidation, and enzymic and non-enzymic antioxidants were measured at baseline and after 45 days of sesame oil substitution. Substitution of sesame oil brought down systolic and diastolic blood pressure to normal.

Contraindication/Interaction:

Anticoagulant & blood thinners

J Med Food. 2006 Fall;9(3):408-12.

A pilot study of open label sesame oil in hypertensive diabetics.

Sankar D[1], Rao MR, Sambandam G, Pugalendi KV.

Abstract

The objective of this study was **to investigate the effect of sesame oil in hypertensive diabetics medicated with atenolol (beta-blocker) and glibenclamide (sulfonylurea)**. This open label trial with two intervention periods comprised 22 male and 18 female patients, 45-65 years old, with mild to moderate hypertension and diabetes. Sesame oil was supplied to the patients, who were instructed to **use it in place of other cooking oils for 45 days**. Blood pressure (BP), anthropometric measurements, plasma glucose, glycated hemoglobin (HbA1c), lipid profiles [total cholesterol, low-density lipoprotein cholesterol (LDL-C), and high-density lipoprotein cholesterol, and triglycerides (TG)], lipid peroxidation [thiobarbituric acid-reactive substances (TBARS)], electrolytes (sodium, potassium, and chloride), and enzymic (superoxide dismutase, glutathione peroxidase, and catalase) and nonenzymic (vitamin C, vitamin E, beta-carotene, and reduced glutathione) antioxidants were **measured at baseline and after 45 days of sesame oil substitution**. The same patients were then switched over to other oils like palm or groundnut oils as their regular oils at random for another 45 days, and the investigations were carried out again at the end. **Systolic and diastolic BP decreased remarkably. When oil substitution was withdrawn, BP values rose again. Body weight, body mass index, girth of waist, girth of hip, and waist:hip ratio were reduced upon substitution of sesame oil. Plasma glucose, HbA1c, TC, LDL-C, and TG were decreased**. TBARS level was reduced, while the activities of enzymic and the levels of nonenzymic antioxidants were increased. **Plasma sodium levels were reduced, while potassium levels were elevated. These results indicate that substitution of sesame oil as the sole edible oil has an additive effect in further lowering BP and plasma glucose in hypertensive diabetics**.

Dark Chocolate

Dark Chocolate and Health

Rich In:

Iron
Copper
Magnesium
Zinc
Phosphorus
Flavanols

https://www.hsph.harvard.edu/nutritionsource/food-features/dark-chocolate/

Purchase and Storage

1. Choose 70% dark chocolate or higher to obtain the most flavanols. Though keep in mind that the higher the percentage of cocoa solids, the greater the bitter flavour.

2. Store in a cool dry area (65-70 F) in a tightly sealed container. Do not refrigerate, which can promote the chocolate to "bloom," a whitish coating caused by sugar rising to the surface due to excess moisture. Bloom does not affect flavour but does not look appealing.

3. If stored properly, dark chocolate will last up to two years.

Dark Chocolate and Health

Cocoa is rich in plant chemicals called flavanols that may help to protect the heart. **Dark chocolate contains up to 2-3 times more flavanol-rich cocoa solids than milk chocolate**. Flavanols have been shown to support the production of nitric oxide (NO) in the endolethium (the inner cell lining of blood vessels) that helps to relax the blood vessels and improve blood flow, thereby lowering blood pressure. [1,2] Flavanols in chocolate can increase insulin sensitivity in short term studies; in the long run this could reduce risk of diabetes. [3,4]

Observational studies support the benefits of cocoa flavanols. The link between blood pressure and high cocoa intake was described in a study of the **Kuna Indians**, an isolated tribe who live on the Caribbean Coast of Panama. [5] Hypertension was extremely uncommon in this group, even among older ages, and even with a dietary salt intake that is greater than most Western populations. When the Kuna migrated to urban environments and changed their diets, their rates of high blood pressure increased. Notably, their traditional intake of cocoa as a beverage was very high, at more than five cups daily of either home-grown or Columbian cocoa powder rich in flavanols. The urinary levels of flavanols in the island-dwelling Kuna were significantly higher and their rates of death from heart disease, cancer, and diabetes significantly lower than their counterparts living in urban centers.

Other Plant-Based Foods with Antihypertensive Properties

- Aubergine/Eggplant
- Cauliflower
- Broccoli
- Zucchini/Courgette/Squash


FREE
PLANT
BASED
COOKING
CLASSES
2.0
Targeted at Hypertension, Type 2 Diabetes & Heart Diseases
To be held on:
Thursday 13th June 6-8pm
Sunday June 2nd, 9th, 16th, 23rd & 30th 6-8pm