Blood pressure (high) - hypertension

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Summary

- Hypertension, or high blood pressure, is a risk factor in many diseases, such as heart attack, kidney failure and stroke.
- Hypertension often doesn’t show any symptoms, so regular check-ups are important.
- Leading a healthy lifestyle is one of the best ways to both treat and prevent hypertension.

How blood pressure is controlled

When the heart contracts, the blood inside the left ventricle is forced out into the aorta and arteries. The blood then enters small vessels with muscular walls, called arterioles. The tone in the muscular walls of the arterioles determines how relaxed or constricted they are. If narrowed, they resist flow.

Reduced flow of blood is detected in the brain, the kidneys and elsewhere. Nerve reflexes are stimulated and hormones are then produced. The heart is induced to beat more forcefully so that blood pressure is maintained at a higher level, to overcome the restricted flow through the arterioles. The achievement of good flow (now at high pressure) eases possible problems for function of the brain and kidneys.

These adjustments occur normally. However, in some people the adjustments become fixed and high blood pressure persists. These people have developed hypertension.

How blood pressure is measured

Hypertension can be mild, moderate or severe. Your blood pressure is naturally higher when you are exerting yourself, such as during physical exercise. It is only a concern if your blood pressure is high when you are at rest, because this means your heart is overworked and your arteries have extra stress in their walls.

Blood pressure readings are a combination of two measurements. These are:

- **Systolic** – is the highest pressure against the arteries as the heart pumps. The normal systolic pressure is usually between 110 and 130mmHg.
- **Diastolic** – is the pressure against the arteries as the heart relaxes and fills with blood. The normal diastolic pressure is usually between 70 and 80mmHg.

**Sphygmomanometer**

Blood pressure is measured using an instrument called a sphygmomanometer.

- An inflatable pressure bag is wrapped around the upper arm. The bag is connected to the sphygmomanometer. The operator pumps up the bag with air until the circulation of the arm’s main artery is interrupted.
The pressure in the bag is then slowly released until it equals the systolic pressure in the artery, indicated by blood once again moving through the vessel. This makes a 'thumping' sound. The systolic pressure is indicated on the sphygmomanometer and recorded.

The blood pressure in the arm’s main artery drops to equal the lowest pressure, which is the diastolic pressure. This is the pressure at which the thumping sound is no longer heard. This figure is also recorded.

The operator may take numerous readings to get the true picture. This is because many people tend to ‘tense up’ during the procedure and nervous tension may temporarily boost the blood pressure.

The accuracy of electronic measuring and recording of both systolic and diastolic pressures is replacing manual and auditory blood pressure recording.

**Most people with hypertension feel okay**

Hypertension usually does not produce any symptoms, because the organs of the body can resist high blood pressure for a long time. That’s why it’s important to have regular medical examinations to make sure your blood pressure isn’t creeping up as you grow older.

High blood pressure over a period of time can contribute to many illnesses, including:

- heart attack
- heart failure
- kidney disease
- stroke.

**An unhealthy lifestyle can cause hypertension**

Some of the factors which can contribute to high blood pressure include:

- hereditary factors
- obesity
- lack of exercise
- a diet high in salt
- heavy drinking
- kidney disease.

The effects of high blood pressure on the arteries are worsened by:

- cigarette smoking
- high levels of saturated fat in the diet
- high blood cholesterol
- diabetes.

Responses to some types of stress may affect both blood pressure and changes in the arteries, but this remains scientifically uncertain.

**Some drugs may cause hypertension**

Certain drugs can cause hypertension or make controlling hypertension more difficult. Check with your doctor or pharmacist for alternatives. These drugs include:

- the combined contraceptive pill
- non-steroidal anti-inflammatories
- some nasal drops and sprays
- some cough medicines, eye drops and appetite suppressants.

**Blood pressure and ageing**

With advancing years, the arteries tend to become more rigid (less elastic). This may change a person’s blood pressure pattern, with a higher systolic pressure and a lower diastolic pressure. The higher systolic pressure is important because it can further accelerate the rigidity of the arteries. This state is referred to as ‘isolated systolic hypertension’. Although these changes are due to ageing, this is not a normal state and may need medication to control the systolic pressures.

**Making healthier choices**

Two out of five people can successfully lower their blood pressure by making adjustments to their lifestyle. For example, a low-fat diet and giving up cigarette smoking will reduce the damaging effects of hypertension on the arteries. Some healthy lifestyle choices include:

- Maintain your weight within the healthy range.
- Eat a high-fibre, low-fat and low-salt diet.
- Give up smoking.
- Limit alcohol consumption.
- Exercise regularly.

See your doctor before you start any new exercise program.

**Antihypertensive medications**

In most cases, it is necessary to take antihypertensive medication as well. Usually hypertensive medication is introduced at low doses. The dose may be gradually increased if needed. A second or even a third drug may be added to achieve good blood pressure control. Not many people experience unpleasant side effects.

Any drug treatment for hypertension needs to be monitored carefully by your doctor. You should never alter the dose of your hypertension medication or stop taking it without consulting with your doctor. Medications don’t cure the condition and most of the people who need to take antihypertensive drugs will do so for the rest of their lives.

**Where to get help**

- Your doctor


Salt and hypertension, Professional Paper, Heart Foundation of Australia. More information here.

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Blood and blood vessels

The following content is displayed as Tabs. Once you have activated a link navigate to the end of the list to view its associated content. The activated link is defined as Active Tab.

- Blood and blood vessels explained
- Cholesterol
- Iron anaemia and blood disorders
- Bleeding, clotting and infections
- Blood pressure
- Blood vessel and bone marrow conditions
- Blood donation and transfusion

Blood and blood vessels explained

- Blood count
  The full blood count (FBC) test looks for abnormalities in the blood, such as unusually high or low numbers of blood cells...
- Bone marrow
  Bone marrow is the spongy tissue in the hollow centres of a person's long bones and is the blood cell 'factory'...
- Circulatory system
  The heart, blood and blood vessels work together to service the cells of the body...
- Heart explained
  The heart is about the size of a clenched fist and lies in the middle of your chest, behind and slightly to the left of your breastbone...
- Lipoedema
  Lipoedema is a painful, chronic, symmetrical swelling in the legs, thighs, buttocks and sometimes arms due to the accumulation of fat in the subcutaneous tissues. The onset often occurs during puberty...
- Lymphatic system
  The lymphatic system manages fluid levels in the body, filters out bacteria and houses types of white blood cells..

Cholesterol

- Cholesterol
  Your body needs cholesterol, but it can make its own. You don't need cholesterol in your diet...
- Cholesterol - healthy eating tips
  Replacing foods that contain saturated fats with foods that contain polyunsaturated and monounsaturated fats will help to lower your cholesterol...
- Genetic factors and cholesterol
  Familial hypercholesterolaemia is an inherited condition characterised by higher than normal levels of blood cholesterol...
- Triglycerides
  If a person habitually eats more kilojoules than they burn, they will have raised triglyceride levels in the blood...

Iron anaemia and blood disorders

- Anaemia
  When a person is anaemic, the red blood cells have to work harder to get oxygen around the body...
- Haemochromatosis
  Haemochromatosis (iron overload disorder) tends to be under-diagnosed, partly because its symptoms are similar to those caused by a range of other illnesses...
- Hughes syndrome
  Hughes syndrome is thickening of the blood caused by abnormal immune system cells...
- Iron
  Iron is important for transporting oxygen in the blood...
- Iron deficiency - adults
Don't take iron supplements unless advised by your doctor.

- Iron deficiency - children
  Keep iron supplements away from children - as little as one to three grams can kill a child under six years.

- Porphyria
  Porphyria can affect the skin, nervous system, gastrointestinal system or all of these, depending on the specific type.

- Thalassaemia
  Thalassaemia is an inherited blood disorder that can cause anaemia or death if not treated.

### Bleeding clots and infections

- **Bleeding**
  Bleeding may be minor or it may be a life-threatening medical emergency.

- **Deep vein thrombosis**
  Long international flights are suspected of contributing to deep vein thrombosis in susceptible people.

- **Haemophilia**
  All children with severe haemophilia are given preventative treatment with infusions of blood products before they have a bleed.

- **Needlestick injury**
  A needlestick injury means the skin is accidentally punctured by a used needle. Diseases that could be transmitted by a needle or needlestick injury include human immunodeficiency virus (HIV).

- **Nosebleeds**
  Bleeding from the nose is common in children and is usually not severe or serious.

- **Septicaemia**
  Bacteria in the bowels, urinary tract, mouth and skin can cause disease if they get into the bloodstream.

- **Subarachnoid haemorrhage**
  A subarachnoid haemorrhage is any bleed located underneath one of the protective layers of the brain known as the arachnoid layer.

- **Subdural haematomas**
  Subdural haematomas are blood clots formed underneath one of the protective layers of the brain.

- **Travel tips for seniors**
  All travellers should plan carefully, but older people have a few extra concerns when travelling.

- **Von Willebrand disease**
  A person with von Willebrand disease may have frequent nosebleeds, heavy menstruation or excessive bleeding from the mouth.

### Blood pressure

- **Blood pressure**
  Healthy eating and lifestyle changes can help to manage high blood pressure.

- **Blood pressure (high) - hypertension**
  Hypertension, or high blood pressure, can increase your risk of heart attack, kidney failure and stroke.

- **Blood pressure - keep your blood pressure down (video)**
  Heart Foundation of Australia warns of the risk of high blood pressure and tells you what you can do to keep your blood pressure down.

- **Blood pressure (low) - hypotension**
  Low blood pressure is only a problem if it has a negative impact on the body.

- **Dizziness - orthostatic hypotension**
  Postural hypotension is the lightheaded feeling you may get if you leap out of bed very quickly.

- **Fainting**
  Common causes of fainting include heat, pain, distress, the sight of blood, anxiety and hyperventilating.

- **Pulmonary hypertension**
  Pulmonary hypertension is high blood pressure on the lungs.

- **Shock**

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Shock is when there is not enough blood circulating in the body. It is a life-threatening medical emergency.

Stroke explained
A stroke interrupts blood flow to an area of the brain and is a medical emergency.

Blood vessel and bone marrow conditions

- **Amyloidosis**
  A person with amyloidosis produces aggregates of insoluble protein that cannot be eliminated from the body.

- **Aneurysm**
  An aneurysm may have no symptoms until it is either very large or it ruptures.

- **Granulomatosis with polyangiitis**
  Granulomatosis with polyangiitis (GPA), formerly known as Wegener granulomatosis is a rare condition that targets the arteries, veins and capillaries of the kidneys and the respiratory system.

- **Henoch-Schonlein purpura**
  Henoch-Schonlein purpura causes a purple-spotted skin rash which lasts around one to four weeks, and is often marked by relapses.

- **Leukaemia**
  Most children and many adults with acute leukaemia can expect to be cured, while chronic leukaemia can be successfully managed.

- **Peripheral vascular disease**
  Peripheral vascular disease is the reduced circulation of blood to a body part (other than the brain or heart).

- **Polycythaemia vera**
  Polycythaemia vera is characterised by the production of too many red blood cells, caused by abnormal function of the bone marrow.

- **Raynaud's phenomenon**
  Raynaud's phenomenon can be a sign of a more serious underlying condition, so see your doctor if you experience it.

- **Thalassaemia**
  Thalassaemia is an inherited blood disorder that can cause anaemia or death if not treated.

- **Varicose veins and spider veins**
  Smaller varicose veins are usually treated by sclerotherapy ? the injection of irritant chemicals into the affected vein.

Blood-donation-and-transfusion

- **Blood donation**
  Donated blood is used to help people who are sick or injured, or for medical research.

- **Blood transfusion**
  Donated blood is screened for blood-borne diseases such as hepatitis, syphilis and HIV.

- **Organ and tissue donation**
  Discover the facts about organ and tissue donation, decide about becoming a donor and discuss your decision with the people close to you.

Related Information

- **Blood and blood vessels**
  Bleeding, blood pressure, conditions, risks and blood products.

- **Dizziness - orthostatic hypotension**
  Postural hypotension is the lightheaded feeling you may get if you leap out of bed very quickly.

- **Blood pressure (low) - hypotension**
  Low blood pressure is only a problem if it has a negative impact on the body.

- **Health check**
  This health assessment questionnaire will identify which zones of your lifestyle are contributing to your personal health risk and provide actions you can take to make positive change.

- **Blood pressure**
  Healthy eating and lifestyle changes can help to manage high blood pressure.

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How to cut down on salt

1. Many of us are eating almost twice the amount of salt (sodium) that we need for good health, largely because it’s hidden in many of the foods we eat. A whopping three-quarters of the salt we eat comes from processed foods. Too much salt can lead to high blood pressure, which puts us at risk of stroke, heart disease and chronic kidney disease. Try these simple tips and cut down your intake.
Limit bought food

Food eaten at restaurants, cafés and from takeaway outlets can be much higher in salt than food prepared at home. The best bet is to make them occasional treats rather than part of your regular diet. They’re also high in kilojoules, saturated fat and sugars. And if you think that sweets are immune from high levels of salt, think again – muffins, donuts and pancakes with maple syrup contain more than 400 mg, which is above ‘safe’ levels. Don’t be fooled by healthier options either – a Caesar salad bought over the counter may contain more salt than the average cheeseburger!

Read food labels

The amount of salt in foods can vary considerably between brands. Look for products with ‘no-added salt’, or at least ‘reduced’ or ‘low salt’. The best choices are those with less than 120 mg of sodium per 100 g. If you have kids, watch how much they’re consuming – too much salt in childhood can lead to a lifetime of health risks. If you need help choosing foods, check out the government’s Health Star Rating – the more stars a product has the healthier it is.

Hint: when using canned vegetables, choose ones with ‘no-added salt’.
4. Ditch the salt shaker

Try to break the habit of automatically salting your meals at the table. And when cooking, don’t add salt. A better option is to add herbs, a splash of olive oil, citrus juice or zest to enhance flavours. Spices such as pepper or cumin are great alternatives too.

Hint: grow some thyme in a pot it adds flavour to soups, stews, and meat.

5. Get clever in the kitchen

Don’t add salt to food when cooking. Instead, give your meals a boost with herbs (e.g. basil, coriander), spices (e.g. cumin, pepper), fresh ginger, garlic, chilli, vinegar and lemon juice or zest. If it’s hard to cut out salt altogether, do it slowly and introduce new flavours gradually. Seasonings are high in salt too – use low or reduced-salt stocks, stock powder and gravy powder and dilute them more than the instructions recommend. When cooking pasta, noodles, rice or vegetables don’t add salt to water.

Hint: don’t add the amount of salt stated in recipes – try adding half or less. If a recipe includes other salty ingredients like stock powder, Asian sauces, olives, capers, anchovies, bacon, ham or smoked salmon, then you shouldn’t need extra salt.
Think you can taste it?

As consumers, we put a lot of trust in businesses who make our food. But when it comes salt, can you trust your tastebuds? Foods don’t have to taste salty to be high in salt. Take control and get into the habit of reading labels.

7. Convenience a no go

In this busy world, a lot of us are looking for ways to spend less time in the kitchen and that’s why convenience products and packaged foods are so popular. Most of these foods are high in salt and best avoided. Cut back on things like – deli meats, flavoured instant pasta, instant noodles, savoury snack foods and crackers, instant cup-a-soups, dehydrated soup mixes and 'heat and eat' frozen or refrigerated meals. Use the government’s Health Star Rating to choose lower sodium products. Even better, cut down the amount of these products you’re consuming and go fresh – it really is best!

8. All salt is the same

Don't be fooled by trendy claims – all salt is the same. Whether it's pink, rock or vegetable, it's still salt, and has the same effect on our health. Any salt contains sodium, and is just the same as ordinary table salt.
**How much is too much?**

We need sodium to regulate fluids in our body – most of us can get it naturally in our diet without it being added. We only need a small amount each day but many of us are eating way more. **Adults should eat less than 2,000 mg (or 5 g) of sodium – about a teaspoon of salt a day.** Children need less than one quarter of a teaspoon of salt per day. The adequate intake of sodium for children starts at around 0.5 g salt (1-3 year olds) to 2 g salt (9-13 year olds).

Hint: got [high blood pressure](https://www.betterhealth.vic.gov.au/BHWeb/BHServlet?formid=21935&bt=BH&bt=22357) – reduce your salt intake to 2,000 mg (5 g) per day. And don’t forget to [talk with your doctor or health practitioner](https://www.betterhealth.vic.gov.au/BHWeb/BHServlet?formid=21935&bt=BH&bt=22357) about what’s right for you.

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**It's in the sauce**

Most simmer sauces, gravies and condiments are stacked with salt to enhance their flavour. A squirt of sauce, a drizzle of dressing on a salad can really start to add up. Popular products that contain loads of salt include soy sauce, tomato sauce, relish, mustard, stir-fry sauces, marinades, stock, gravy, mayonnaise and salad dressings. Anything pickled such as olives, gherkins and capers is high in salt too.

Natural? Think again

Even though a label may say ‘natural’ doesn’t mean food is healthy - it could contain loads of salt. Download a free app like FoodSwitch, which scans barcodes and gives the nutritional value of loads of foods. If you have kids, get them to help with the shopping. They can search for healthy alternatives using your phone - it’s great for starting healthy habits early in their lives. The best way to ensure we’re eating ‘natural’ foods is to eat plenty of fruit, vegetables and wholegrains.

Don't listen to those cravings

Salt has a craving effect on our bodies - the more we eat, the more we want. And, for some of us, it makes us eat more too. Try to cut down slowly, so you're less likely to crave 'bad things', such as junk and fast foods! Don’t be disheartened, foods might taste different from the start, but our taste buds will adjust – it just takes time. So stick with it. If you find you are craving excessively, see a doctor – it could be a sign of an underlying medical condition, such as Addison’s disease.
Surely not breakfast!

Believe it or not, breakfast cereals can be high in salt, and that toast we’re eating could be too. When shopping, read the nutritional information and make sure to look for low sodium products. Your best bet is to choose cereals that are less likely to contain added salt such as oats or unsweetened muesli. If you have time, make your own Bircher muesli – it’s cheaper, healthier and filling!

Time for brunch or lunch?

A popular lunch staple is the humble sandwich or roll filled with deli meats. Even if you make your own lunch you may not know exactly how much salt you’re actually consuming. Limit your intake of deli meats that are high in salt such as salami, ham, corned beef, and chicken loaf. Go easy on those Sunday brunches too – smoked salmon, sausages, bacon and prosciutto are high in salt – just one rash of bacon alone is a third of our maximum daily intake! Be on the lookout for brands that are lower in sodium.

Hint: vary fillings in lunches – such as tuna in spring water (it’s less salty than brine), hard-boiled eggs, or patties and dips made with legumes (e.g. falafels or hommus.)
15. **Converting sodium into salt**

If you're still confused by food labels try this simple calculation to work out how much salt is in a product:

Multiply the amount of sodium (in mg) by 2.5

*For example: 400 mg sodium in a serve of food X 2.5 = 1,000 mg (or 1 gram) of salt*

16. **Cramps don't need salt**

Contrary to what we might believe, if your muscles are cramping they need water not salt. Cramps are a sign that our body is dehydrated and needs replenishing. Drink plenty of water before, during and after exercise, and especially on hot days.
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Medical Dictionary

Enter a search term
Search

Search for your topic using the Merriam Webster medical dictionary

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