

INFORMATION ON HIGH BLOOD PRESSURE AND PHYSICAL ACTIVITY

This is an information sheet about high blood pressure. It gives you some basic information about the condition and some practical tips to help you prevent and manage it with improvements to your physical activity levels.

What is high blood pressure?

Blood pressure (BP) is recorded with two numbers. The first one (higher) is the systolic blood pressure (SBP) which shows the pressure the heart -as a pump- has to overcome when it beats in order to push the blood all around the body; the second number (lower) is the diastolic blood pressure (DBP) which shows the pressure in the arteries when the heart is resting in between beats.

Generally, high blood pressure (or hypertension) is considered to be above 140/90mmHg (150/90 when you are >80y.o.) or average BP of above 135/85.

Prehypertension is a level of BP: 120-139/80-89 (not hypertension yet but increased risk to develop a high BP) and there are three stages of high blood pressure that reflect severity.

What are the symptoms of high blood pressure?

High blood pressure does not usually cause symptoms unless significantly raised.

What causes high blood pressure and who develops it?

Risk factors related to developing high blood pressure include:

- ❖ Diet high in salt, sugar and fat
- ❖ Smoking
- ❖ Drinking too much alcohol/ caffeine
- ❖ Lack of physical exercise
- ❖ Being overweight or obese
- ❖ Sleep apnoea
- ❖ Having diabetes, high cholesterol or kidney disease
- ❖ Family history of high blood pressure
- ❖ Older age
- ❖ Black African/ Caribbean origin
- ❖ Chronic stress

What are the risks when someone has high blood pressure?

High blood pressure can damage different organs in the body (called target organs) – the heart, the kidneys, the brain, the eyes. It increases the risk of heart failure, coronary artery disease, stroke, chronic kidney disease, peripheral arterial disease, aneurysms and vascular dementia.

Is there anything I can do to lower my high blood pressure?

There are many things that you can do in your day-to-day life that can have a significant impact in improving your blood pressure and reducing the risk of cardiovascular disease.



- ✓ Follow a healthy diet
- ✓ Stop smoking
- ✓ Reduce/ stop alcohol
- ✓ Reduce caffeine consumption
- ✓ Manage your weight
- ✓ Do regular physical activity **
- ✓ Manage your stress



Image by agilemktg1

High blood pressure affects 1 in 4 adults in the UK. It is the biggest risk factor for cardiovascular disease (heart attack, stroke, heart failure)

** in this leaflet we are focusing on the things that you can do specifically with your physical activity levels to better manage your blood pressure or even prevent it.

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How do different levels of blood pressure affect engaging in physical activity?

- If you have **prehypertension, stage 1 hypertension or wishing to prevent getting high blood pressure**, you can follow the recommendations for at least 150 mins of moderate intensity activity weekly (or 75 mins of vigorous activity) along with recommendations in muscle strengthening and flexibility as given below – see also [UK activity levels recommendations](#).
- If you have been diagnosed with **Stage 2 or Stage 3 hypertension** or you have been told you have **target organ damage**, then it is preferable to **ensure adequate BP control prior to engaging** to regular exercise if not already active.

[Stage 1: 140-159/90-99 or average of 135-149/85-94, Stage 2: 160-179/100-119 or average of 150/95 and above, Stage 3 hypertension: SBP \geq 180 or DBP \geq 120]

“Physical activity not only helps control high blood pressure, it also helps you manage your weight, strengthen your heart and lower your stress level. A healthy weight, a strong heart and general emotional health are all good for your blood pressure”
American Heart Association

Physical activity recommendations for prevention and management of high blood pressure include **aerobic activity, muscle strengthening (resistance exercises) and flexibility exercises**

Examples of aerobic activity with different intensity levels

Moderate	Vigorous	Very vigorous
Brisk walking	Running	Lifting heavy weights
Cycling	Cycling uphill or fast	Circuit training
Dancing	Aerobics/ gymnastics	Running upstairs
Rollerblading	Skipping rope	Spinning
Swimming	Swimming laps	Interval running
Hiking	Tennis, football, etc	Sprinting uphill



\geq 30mins rhythmic moderate aerobic activity a day for 5-7 days a week



2-4 sets of 8-12 repetitions for each major muscle group 2-3 days a week



Holding stretch for 10-30 secs, 2-4 repetitions/exercise 2-3 days a week

Muscle strengthening:

- ✓ Carrying heavy shopping bags
- ✓ Lifting weights
- ✓ Working with resistance bands
- ✓ Yoga, pilates, tai chi
- ✓ Heavy gardening
- ✓ Push ups, sit ups

Flexibility/ balance:

- ✓ Stretching
- ✓ Yoga
- ✓ Pilates
- ✓ Tai chi

How do I know if I am doing things the right way?

- ⚙ For moderate intensity activity, you can check this yourself - you should be able to talk in sentences but not able to sing! If you are not able to talk that means you are probably doing a vigorous one, and if you are able to sing then that means you are not working hard enough.
- ⚙ You can also have a target for your heart rate while exercising (see below)
- ⚙ For flexibility exercises, you should stretch to the point of feeling tightness or slight discomfort

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How do I find out what is my Heart Rate target for aerobic exercise?

Some people find it helpful to have a certain target for their heart rate (how many beats per minute -bpm- your heart does) to aim at when performing aerobic activity.

Should you wish to calculate that, you need first to find out your maximum heart rate: **MHR=220-your age**; for example, if you are 50 y.o. then your MHR=220-50=170.

For **moderate intensity exercise**, you should aim at **50-70%** of your MHR, so for the example above your target would be 85-119 bpm. For vigorous activity, the target is 70-85%, so for the example above this would be 120-145 bpm.



Image by integratedchange

Regular aerobic exercise with adequate intensity and duration that can promote increased exercise capacity can lead to reduction of blood pressure by 5-7mmHg.

Any useful tips to start regular physical activity?

Find the time

If you are not particularly active, the recommendations above might feel daunting. A great start is just to **get moving** and gradually build up on that with small achievable weekly targets.

Don't be scared to get active

If you have not been active for sometime, just remember to **pace yourself** starting slowly and seeking advice when required

Engage in activities you enjoy

Pick activities you find **pleasurable** and **enjoyable** so you can happily maintain your level of activity over time

Get some variety in your activities

Engaging in different types of activities can keep you **interested** and **motivated** over time

Get to know what moderate intensity exercise is for you

If this is your starting point, initially just try to get your heart rate up/ your breathing a bit faster prior to setting certain number targets

Make it your "me time" or a team effort/ opportunity to be social

Some people prefer exercising on their own as this can give them a break from day-to-day routine, whereas others get more motivated when having a partner or **participating** in a class

Remember to warm up and cool down

This will help you **regulate** your **heart rate** – to slowly rise in the beginning and then slowly come down at the end of the exercise



Image by tejvanphotos



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Are there any special recommendations/ things to consider prior to starting regular exercise?

- ⊗ **Avoid strenuous activities that involve breath-holding or straining** if you have been diagnosed with high blood pressure. People tend to do that when lifting heavy weights, doing push ups or trying to maintain certain physical postures in classes. This can cause a sharp rise to the BP and we generally advise to avoid it. Should you wish to engage in activities like the ones above mentioned, ensure you avoid breath-holding/ straining/ grunting.
- ⊗ If you are taking medication for your high blood pressure, you should **avoid sudden changes in posture** (e.g. standing up too quickly) as this can cause dizziness. Extend your cool down period as the medication can make your blood pressure and your hear rate to go low if you stop abruptly.
- ⊗ **Avoid** activity that involves a lot of **overarm exercises** or that requires keeping your head at lower level than your upper body for prolonged periods.

How do medication for blood pressure affect my physical activity?

Being on medication for high BP or heart disease should not stop you from getting physically active, but there are some **precautions** you should be aware of for certain types of medication:

- ♀ B-blockers (bisoprolol, atenolol, etc) slow your heart rate. When you exercise, the heart rate tends to go up as your heart is responding to the increased body demand. When you are on this medication, this normal response does not take place as expected so you should avoid over-exerting yourself or performing very vigorous exercise. Your target heart rate should be lower compared to people not on this medication.
- ♀ A-blockers (doxazosin), calcium channel blockers (amlodipine, felodipine), vasodilators (nicorandil, isosorbide). They can lead to sudden excessive post exercise drop in the blood pressure, so you should have a gradual cooling period which might need to be prolonged until you reach your resting heart rate.
- ♀ Diuretics or else known as ‘water-tablets’ (furosemide, indapamide, bendroflumethiazide). They can cause electrolyte imbalances (e.g. low potassium) which can be attenuated with excessive sweating during vigorous or very vigorous exercise.



Image by AuntieP



Are there any other lifestyle factors to consider for blood pressure control?

➤ **Quit smoking**

Smoking is a big factor in high blood pressure, so it would be best to consider quitting altogether.

➤ **Reduce alcohol and caffeine consumption**

Alcohol can negatively affect blood pressure levels so keep it to moderate consumption or consider avoiding it. High caffeine intake can also increase blood pressure so keep it at lower levels.

➤ **Maintain healthy weight**

Being overweight (especially when the weight is around the tummy area) can play significant part in high blood pressure and in your risk of developing cardiovascular disease.

➤ **Improve your diet**

Healthier dietary choices can have a great impact in preventing and managing high blood pressure. We have another more specific sheet on high blood pressure and nutrition that is available to you.

➤ **Managing stress**

Chronic stress can lead to increased blood pressure. By getting enough sleep, learning relaxation techniques (mindfulness, meditation, etc) or asking for help to manage your stress can help.



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