

UNDER PRESSURE

Hypertension can affect you both professionally and personally. Dr Chris King considers the causes and how to cope.

➔ Hypertension is the medical term given for high blood pressure. It is recommended that all persons have their blood pressure (BP) checked every five years. All active pilots will have their blood pressure checked more often at their medicals.

High blood pressure is a definite risk factor in the development of coronary artery disease, strokes, heart failure and irregular pulse (atrial fibrillation). Reduction in blood pressure lowers the risk accordingly. Hypertension is commoner in the ageing population and is associated with obesity, poor diet and reduced levels of exercise, all seen in the Western world.

Hypertension can be associated with specific medical conditions but, in most cases, no cause is found, so called 'essential hypertension'. It is recommended that any person developing hypertension under the age of 30 years old be investigated by a specialist. More detailed guidelines on the management and treatment of hypertension can be found on the British Hypertension Society website.

Anxiety can play a part

Some over-the-counter medications such as decongestants, ibuprofen and indigestion mixtures containing liquorice can cause elevated blood pressure.

Blood pressure is measured by a cuff put around the arm and inflated to a level where the sounds cannot be heard, and then deflated slowly with a stethoscope placed over the front of the elbow to listen to the sounds of the returning pulse and measured. The level at which the pulse returns is called the systolic BP and when it disappears, the diastolic BP, and these refer to the blood pressure within the heart. The BP is recorded as the systolic BP over the diastolic BP, eg. 120/80mm Hg. High blood pressure is defined by the CAA as a blood pressure constantly exceeding 160/95mm Hg, although treatment may be required at a lower level.

Sometimes it is necessary to have a 24 hour blood pressure recorded by a machine worn over a 24 hour period. This is useful when one is unsure if the

blood pressure is constantly raised or when anxiety can play a part – 'white coat hypertension' is when an individual gets anxious when seeing a doctor.

If high blood pressure is diagnosed, the pilot should be made temporarily unfit (T/U) until the BP is investigated and satisfactorily treated.

Risk factors

Class 1 pilots need to be assessed by a cardiologist; class 2 pilots may be assessed by their GP.

Risk factors include obesity, excess alcohol (for men more than 21 units, and for women 14 units per week), smoking, salt in the diet, stress and

reason why obesity is such a problem these days and can be addressed with a proper diet, weight control and exercise.

Acceptable treatment for the CAA falls into the following groups:

- ACE inhibitor, all drugs ending in 'pril' such as ramipril.
- An angiotensin-II receptor agonist, all drugs ending in 'sartan' such as candesartan.
- Calcium channel blockers of which there are various.
- A beta-blocker, all drugs ending in 'lol' such as atenolol or bisoprolol.
- A diuretic (water tablet) of the thiazide variety, usually bendroflumethiazide 2.5mg.

“Hypertension is commoner in the ageing population and is associated with obesity, poor diet and reduced levels of exercise, all seen in the Western world.”



level of exercise; checks for associated diabetes and family history also need to be carried out.

Investigations will include assessment of body mass index (BMI equals weight divided by height in metres squared), urine test for sugar and protein, blood tests for lipid levels (cholesterol and fats), kidney function and diabetes together with an ECG and occasionally an echocardiogram.

If a pilot's girth is over 40 inches then he/she is at risk of metabolic syndrome, which is associated with a higher risk of diabetes and heart disease. This is the

- A potassium sparing diuretic such as spironolactone or amiloride.

Medication not mentioned above is either not allowed or must be discussed with the CAA.

Lifestyle issues

A full report on the investigations and treatment should be forwarded onto the CAA. I usually like to check the blood pressure standing and lying after treatment has started to check there is no 'postural drop' with medication before making the pilot fit again.

Treatment should also address the lifestyle issues mentioned previously.

Once the CAA has the reports and the BP is satisfactorily controlled the T/U notice can be lifted and the pilot resume flying. It is possible the CAA may require a more detailed cardiac evaluation in certain instances.

If further treatments or change in dosage for high blood pressure are required the pilot needs to remain grounded for two weeks with further blood pressure estimations lying and standing and the CAA informed of any alterations to treatment. Blood pressure should continue to be monitored on an ongoing basis by the GP as well as AME.

You can download a hypertension algorithm from the CAA website. ■