**CAP health & wellness** HSO Briefing: Hypertension

**Purpose:**

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| (U) **Bottom Line:*** Risk to populations**: very low** **| low** | **moderate** | **high**
* **The key factor is to encourage regular (at least every 2 year) screening for hypertension.**
* **Paying special attention to cadets and senior members who are overweight or obese is warranted.**
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**Overview:** Most health service officers will be very aware of the health implications of uncontrolled hypertension. Helping to make our members aware of this health situation and encouraging all members, both senior and cadet, to have periodic blood pressure evaluations is a valuable service.

***Recommendations:***

**Information:** Provide basic information and knowledge to the CAP membership regarding the detection, evaluation and treatment of hypertension.

**Cadets:** Hypertension in the adolescent and teenage population is substantially under-diagnosed. It is a health problem that has been growing in recent years due to the “epidemic” of obesity and physical inactivity. It is estimated that the prevalence of elevated blood pressure and hypertension is as high as 30% in the overweight and obese adolescent. Unrecognized or under-treated hypertension in this age group predisposes the individual to cardiovascular disease in adulthood.

Hypertension in adolescents is defined as a blood pressure of 130 / 80 or above, while blood pressure elevation is defined as a blood pressure above 120 / 80.

**Adults:** Normal blood pressure for adults is also at or below 120/80. Elevated blood pressure or “Pre-hypertension” is often defined as a blood pressure of >120 /80 to 140 / 90. Stage 1 hypertension is currently defined as a blood pressure exceeding 140 systolic and 80 diastolic, up to 160 systolic and 100 diastolic, although these ranges vary somewhat from one agency to another. Clearly, a systolic of >140 and/or a diastolic of >90 is worthy of recognition and treatment.

**Screening:** It would be prudent for HSOs to recommend that any cadet be screened at least once or twice during their teenage years, and more often for those who are overweight, obese, or have a diagnosed condition like diabetes. For senior members, it is generally recommended that adults be screened for hypertension every 2 years, and more often when there are other disorders present. In general, individuals at any age who are already in treatment for medical conditions are more likely to have their blood pressure monitored than would be those who are not currently under ongoing medical care.

**From the Mayo Clinic:** some useful information from the Mayo Clinic website

## **Symptoms**

Most people with high blood pressure have no signs or symptoms, even if blood pressure readings reach dangerously high levels.

A few people with high blood pressure may have headaches, shortness of breath or nosebleeds, but these signs and symptoms aren't specific and usually don't occur until high blood pressure has reached a severe or life-threatening stage.

## **Causes**

There are two types of high blood pressure.

### Primary (essential) hypertension

For most adults, there's no identifiable cause of high blood pressure. This type of high blood pressure, called primary (essential) hypertension, tends to develop gradually over many years.

### Secondary hypertension

Some people have high blood pressure caused by an underlying condition. This type of high blood pressure, called secondary hypertension, tends to appear suddenly and cause higher blood pressure than does primary hypertension. Various conditions and medications can lead to secondary hypertension, including:

* Obstructive sleep apnea
* Kidney problems
* Adrenal gland tumors
* Thyroid problems
* Certain defects you're born with (congenital) in blood vessels
* Certain medications, such as birth control pills, cold remedies, decongestants, over-the-counter pain relievers and some prescription drugs
* Illegal drugs, such as cocaine and amphetamines

## **Risk factors**

High blood pressure has many risk factors, including:

* **Age.** The risk of high blood pressure increases as you age. Until about age 64, high blood pressure is more common in men. Women are more likely to develop high blood pressure after age 65.
* **Race.** High blood pressure is particularly common among people of African heritage, often developing at an earlier age than it does in whites. Serious complications, such as stroke, heart attack and kidney failure, also are more common in people of African heritage.
* **Family history.** High blood pressure tends to run in families.
* **Being overweight or obese.** The more you weigh the more blood you need to supply oxygen and nutrients to your tissues. As the volume of blood circulated through your blood vessels increases, so does the pressure on your artery walls.
* **Not being physically active.** People who are inactive tend to have higher heart rates. The higher your heart rate, the harder your heart must work with each contraction and the stronger the force on your arteries. Lack of physical activity also increases the risk of being overweight.
* **Using tobacco.** Not only does smoking or chewing tobacco immediately raise your blood pressure temporarily, but the chemicals in tobacco can damage the lining of your artery walls. This can cause your arteries to narrow and increase your risk of heart disease. Secondhand smoke also can increase your heart disease risk.
* **Too much salt (sodium) in your diet.** Too much sodium in your diet can cause your body to retain fluid, which increases blood pressure.
* **Too little potassium in your diet.** Potassium helps balance the amount of sodium in your cells. If you don't get enough potassium in your diet or retain enough potassium, you may accumulate too much sodium in your blood.
* **Drinking too much alcohol.** Over time, heavy drinking can damage your heart. Having more than one drink a day for women and more than two drinks a day for men may affect your blood pressure.

If you drink alcohol, do so in moderation. For healthy adults, that means up to one drink a day for women and two drinks a day for men. One drink equals 12 ounces of beer, 5 ounces of wine or 1.5 ounces of 80-proof liquor.

* **Stress.** High levels of stress can lead to a temporary increase in blood pressure. If you try to relax by eating more, using tobacco or drinking alcohol, you may only increase problems with high blood pressure.
* **Certain chronic conditions.** Certain chronic conditions also may increase your risk of high blood pressure, such as kidney disease, diabetes and sleep apnea.

Sometimes pregnancy contributes to high blood pressure, as well.

Although high blood pressure is most common in adults, children may be at risk, too. For some children, high blood pressure is caused by problems with the kidneys or heart. But for a growing number of kids, poor lifestyle habits, such as an unhealthy diet, obesity and lack of exercise, contribute to high blood pressure.

## **Complications**

The excessive pressure on your artery walls caused by high blood pressure can damage your blood vessels, as well as organs in your body. The higher your blood pressure and the longer it goes uncontrolled, the greater the damage.

Uncontrolled high blood pressure can lead to complications including:

* **Heart attack or stroke.** High blood pressure can cause hardening and thickening of the arteries (atherosclerosis), which can lead to a heart attack, stroke or other complications.
* **Aneurysm.** Increased blood pressure can cause your blood vessels to weaken and bulge, forming an aneurysm. If an aneurysm ruptures, it can be life-threatening.
* **Heart failure.** To pump blood against the higher pressure in your vessels, the heart has to work harder. This causes the walls of the heart's pumping chamber to thicken (left ventricular hypertrophy). Eventually, the thickened muscle may have a hard time pumping enough blood to meet your body's needs, which can lead to heart failure.
* **Weakened and narrowed blood vessels in your kidneys.** This can prevent these organs from functioning normally.
* **Thickened, narrowed or torn blood vessels in the eyes.** This can result in vision loss.
* **Metabolic syndrome.** This syndrome is a cluster of disorders of your body's metabolism, including increased waist circumference; high triglycerides; low high-density lipoprotein (HDL) cholesterol, the "good" cholesterol; high blood pressure and high insulin levels. These conditions make you more likely to develop diabetes, heart disease and stroke.
* **Trouble with memory or understanding.** Uncontrolled high blood pressure may also affect your ability to think, remember and learn. Trouble with memory or understanding concepts is more common in people with high blood pressure.
* **Dementia.** Narrowed or blocked arteries can limit blood flow to the brain, leading to a certain type of dementia (vascular dementia). A stroke that interrupts blood flow to the brain also can cause vascular dementia.

**Questions**: **Contact your Region/Wing/Unit Health Services Officer or**

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