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## **Smoking and Vascular Disease**

### **Definition**

Smoking is a major risk factor in the development of Vascular (blood vessel) Disease and heart disease. Tobacco contains more than 4000 individual chemicals, many of which are capable of damaging the blood vessels and leading to Vascular Disease.

### **Description**

Tobacco use increases the risk of Vascular Disease by affecting cholesterol, blood pressure and blood flow.

### **Smoking and Cholesterol**

Smoking decreases the levels of HDL (good) cholesterol and raises the levels of LDL (bad) cholesterol. This increases the risk of atherosclerosis, the build up of fatty plaques inside the blood vessels. Atherosclerosis can cause a blockage in the blood supply to the heart, brain or the body and lead to heart attack, stroke or poor circulation.

### **Smoking And Blood Pressure**

Smoking increases the blood pressure by constricting (tightening) the blood vessels. Over time, high blood pressure causes damage to the inner surface of the vessels, making them more likely to attract fatty deposits during atherosclerosis. Smokers develop high blood pressure at an earlier age than non-smokers, and do not respond as well to blood pressure medications..

### **Smoking And Blood Flow**

Smoking increases the stickiness of blood. This slows down the rate of blood flow, making it more likely to clot. Blood clots (thrombus) may occur independently or at the site of a plaque in the blood vessel. If a blood clot breaks away (an embolism) it may travel to the heart, brain or lungs and cause stroke or sudden death. Studies show that one cigarette can reduce blood flow to the extremities by 50 percent reducing the flow of oxygen through the body. This can result in ischaemia and poor wound healing.

### **Smoking and Heart Disease**

Smoking greatly increases a person's risk of developing heart disease. Smokers have a 70 percent greater chance of dying from heart disease than non-smokers. Heart disease describes conditions that cause the flow of blood through the heart to be reduced. The most common way that this flow is reduced is by the build up of fatty deposits (atherosclerosis) or the formation of a blood clot (thrombosis) in the arteries. When the blood supply to the heart is interrupted, it sometimes

causes the chest pain known as angina. When the blood supply is cut off completely, a heart attack occurs.

Smoking, or even exposure to second-hand smoke, causes the heart to work harder by:

- \* Decreasing the oxygen carried in the blood - carbon monoxide and other gases replace oxygen with each inhalation of cigarette smoke
- \* Increasing the heart rate - the heart beats faster to get more oxygen by accessing a greater volume of oxygen-poor blood
- \* Decreasing the size of blood vessels - a buildup of fat deposits associated with nicotine and carbon monoxide makes blood vessels and arteries smaller which limits the blood supply to the heart

### **Treatment options**

Ask your Pharmacist or Doctor about programs to help you stop smoking. Anti-smoking products (also called nicotine replacement therapy) provide a slow release of nicotine in the form of a spray, skin patch or chewing gum. This helps reduce cravings while avoiding the dangerous chemicals present in cigarettes. They are most effective when used in conjunction with behaviour therapy and counselling.

### **Diet hints**

See the Smoker's Diet and Atherosclerosis Diet topics on the HealthPoint.

### **Prevention**

The best way to prevent Vascular Disease is to **quit smoking**. Most treatments for Vascular Disease are less effective if you continue to smoke.

- 1) Ask your Doctor or Pharmacist about programs and anti-smoking products available.
- 2) Follow the Diet Hints and consider the nutritional supplements mentioned in this topic.
- 3) See the Heart Disease - Prevention topic for advice on reducing other cardiac risk factors.
- 4) See the range of Smoking topics on the Healthpoint for further information.

### **Vitamins/minerals/herbs**

- Avoid taking beta carotene, as taking regular doses of this supplement has been linked to a possible increased risk of lung cancer in smokers.
- A recent clinical trial indicates that Vitamin C can improve blood circulation to the heart which can be impaired in smokers.
- Chamomile and valerian may help relieve restlessness and anxiety.
- There are products available that contain a variety of herbs, vitamins, minerals and amino acids designed to help relieve the restlessness and anxiety that may be associated with giving up smoking, support the immune system and replace depleted vitamins and minerals in people who have given up smoking.

### **Medical terms**

**Nicotine:** The addictive substance in tobacco.

### **Organisations & support groups**

For more help and information see the Smoking Support Groups topic on the Health point.

### **Pharmacist's advice**

Ask your Pharmacist for advice.

- 1) Ask your Pharmacist for suggestions to help you stop smoking.

2) Ask your Pharmacist about anti-smoking products. Your Pharmacist can explain how to use these products correctly.

3) Follow the Diet Hints and consider supplements if the diet is inadequate.

DISCLAIMER : This information is an educational aid only. It is not intended to replace medical advice for individual conditions or treatments. Talk to your doctor, pharmacist, nurse or naturopath before following any medical regimen to see whether it is safe and effective for you.