



## Atherosclerosis Medical Procedures and Health Management

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### Description

Atherosclerosis is a disease, which is caused due to the accumulation of plaque within the blood vessels i.e. arteries which blocks the blood flow to the various organs. Blood is a fluid connective tissue of the circulatory system, which transports absorbed nutrients to cells like O<sub>2</sub>, glucose, and amino acids, and waste products from cells like CO<sub>2</sub> and urea. Additionally, it transports molecules, such as hormones. Overtime accumulation of plaque which is made up of fat, cholesterol, calcium, and other substances found in the blood, may harden the arteries and restrict the flow of blood. While pumping the blood, it causes serious problems like heart attack, stroke or maybe death. Severe atherosclerosis, can also leads to a medical procedure or surgery. Atherosclerosis-related diseases include coronary heart disease, carotid artery disease, peripheral artery disease, chronic kidney disease.

Unmodified risk factors like age and a family history of heart disease. Some modified risk factors, are lack of physical activity, smoking, and an unhealthy diet. Heart stroke is the noticeable symptom in atherosclerosis but in some people it cannot be noticed. Lifestyle changes, such as eating a healthy diet and exercising, are the primary treatment for atherosclerosis. These treatments, alongside ongoing medical aid, can assist to live a healthier life.

### Risk factors

- High blood pressure
- Smoking
- High levels of certain cholesterol-HDL, VLDL, chylomicrons
- High amounts of sugar in the blood due to insulin resistance/ type 2 diabetes

### Diagnostic tests

It includes blood tests, EKG (Electrocardiogram), chest X ray, ankle/brachial index, echocardiography, computed tomography scan, stress testing, angiography.

### Heart-healthy eating habits

- Limit sodium intake.
- Dietary approaches like selecting whole grains, fruits and vegetables in the daily menu.
- Avoid alcohol consumption.
- Maintain a healthy weight.
- Stress management and Regular physical activity.

### Medical procedures and surgery

PCI: Percutaneous Coronary Intervention (PCI), also known as coronary angioplasty. It's a non-surgical procedure, without opening the arteries the plaque can be compressed by inserting the catheter. Through Percutaneous Coronary Intervention (PCI), we can improve blood flow to the guts and pain get relieved by decreasing the narrowness caused by the blocked materials (plaque) within the arteries. Little mesh tube called a stent is placed within the artery to stay it open after the procedure has been done. Catheter is inserted through arm, when it reaches to arteries the balloon tip compresses the plaque and expands the stent.

CABG: Coronary Artery Bypass Grafting (CABG) is a surgical procedure. In CABG, arteries or veins from other areas in the body are used to bypass the route of the blood flow to the heart muscles. This procedure restores blood flow to the brain, which may help prevent a stroke. The bypass graft can be taken from leg or healthy artery from heart. During grafting the one end attach to the heart muscle and other end to the narrowed artery in order to divert the blood flow which carries the oxygen and nutrients to heart. There are many risks in CABG, while doing surgery there is a chance of blood loss, rejections of graft after surgery, infections, organ failures may occurs.

### Conclusion

- Cardiac patients should follow the diet with high fiber content, large portion size of fruits and vegetables, by lowering the fat and sugar contents.
- Avoid carbonated beverages, preservatives, food dense in calories like fat content and carbohydrates. Physical activity and monitoring the weight.
- Consulting doctor can prevent cardiac diseases.
- Comorbidities are one of the factors for many diseases; monthly health checkups should be done.

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Received July 09, 2021; Accepted July 23, 2021; Published July 30, 2021

Citation: Montone RA (2021) Atherosclerosis Medical Procedures and Health Management. Atheroscler Open Access. 6: 156.

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