

Effect of Yoga for Healthy Heart and Blood Vessels

The circulatory system includes the heart, blood vessels and the blood. Actually our blood is a mixture of some nutrients, waste products, hormones and gases. It acts as a vehicle that carries the products of digestion from the alimentary canal and the oxygen from the lungs to the tissues. While returning to the heart, the blood brings the toxic substances or the waste products back to the heart and The kidneys, lungs and the skin eliminate faculty of these substances. Transportation helps to maintain internal environment. The amount of these substances in blood influences the health of blood vessels and heart also. **According to medical science**, the stage of youth depends on the health of blood vessels. If they remain healthy then the nourishment of each cell becomes easier. But if these vessels get degenerated so early, all cells and organs get in trouble and degenerate automatically. Simply say that if you want to remain young, save your blood vessels from the degeneration.

Anatomically, our heart is a highly specialized smooth muscle having great power to generate electricity and rhythmically. Physiologically, it is under autonomous control. It get influenced very easily by emotions. Our blood vessels are highly elastic structure of the body. Each blood vessel contains two parts- inner cavity and outer wall. This wall is made of 3 layers- Out of these the middle layer is nothing but the smooth muscle which is under autonomous control.

The condition of heart and blood vessels can be checked externally by checking Blood pressure. Every person has some blood pressure. Actually it is the pressure exerted by blood on the walls of the vessels. This indicates the status of strength of heart muscles. Also it indicates

the elasticity of blood vessels. When the blood pressure gets increased, it is called as **hypertension**. Basically this indicates that our blood vessels have reduced their elasticity and diameter due to degeneration.

In that cause hearts have to work more to circulate the blood against the resistance produced by vessels. Thus, basically hypertension is the disease of blood vessels which increases workload on heart. Hypertension is a chronic disease which may complicate into various fatal conditions like kidney failure, hemorrhage in brain and eye, heart muscle failure etc.

Another disease related to heart is **ischemic heart disease**. Ischemic means poor, obstructed blood circulation. Coronary artery and its branches supplies blood to heart muscles. Due to atherosclerosis in the main branches of this vessel, there is a formation of solid plug inside the vessel which decreases the diameter, narrows the path and thus obstructs the blood flow, towards heart muscles. This may lead to acute myocardial infarction or recurrent ischemic attacks.

Atherosclerosis in the blood vessel related to brain, (carotid artery and its branches), diminishes the blood supply to brain. Because of that some parts of brain get damaged or degenerated which later on gives rise to paralysis or sometimes serious complication like coma.

Atherosclerosis in the blood vessels related to specific organ leads to the degeneration of that particular organ. Usually, atherosclerosis starts after fifty. It's a very slow process. It does not produce any symptom during happening. When significant blockage and ischemia take place, then and then only one can imagine about. Sometimes the people may have no any symptom of hypertension, but during routine medical check up one can found the disease within him. Anyway, this process of degeneration of blood vessel is one of the important causes of old age.

Now a day, so many patient develop atherosclerosis at the age of 40 years. This clearly indicates early old age or early loss of stamina in regular activity. So we have to be very cautious about its causes and should avoid it skillfully.

Medical science consider three important causes for atherosclerosis-

Wrong diet,

Lack of exercise,

and

Stress and its tendency

1) Wrong diet-

Mostly high quantity of oil in diet increase the risk of atherosclerosis. Because most of the time the unused fat remain in the form of cholesterol and increases viscosity of blood, which puts pressure on heart muscles to overwork. Also it get attached to the inner wall of blood vessels and produces degeneration of vessels. Now a day the most popular junk food or fast food contains high fat. The non-veg. diet also contain high fat. Also some Indian spicy and Chinese dishes contain high fat.

2) Lack of exercise-

If someone fails to maintain proper diet, at least the habit of regular exercise may help to use the fat inside body. But when one omit exercise, may be due to his too much busy state, even small amount of fat, whatever he is taking, produces the risk of atherosclerosis.

3) Stress and the habit of stress-

Stress increases overall metabolism in the body. This produces strain on the vessels and also waste material in blood. If it is a temporary phenomenon then it doesn't matter. Body can compensate the imbalance. But chronic stress definitely injure the blood vessel which results in atherosclerosis. Stress promotes the other two risk factors also. i.e. when one remain in the state of anxiety depression, mostly there is lack of exercise and ignorance of dietary principles.

Role of Yoga-

Obviously, the prevention and management of these complications includes three important things-

- i. Stress management.
- ii. Diet management.
- iii. Exercise management.

Principles and practices of yoga helps in these three parts of management.

1. Stress management-

About Pranayama-

Pranayama, according to hathayoga, breath and thoughts are directly proportional to each other, and if we manage one of them, the other gets managed automatically. Scientifically, pranayama is a voluntary breath regulation. It contains skillful slowing of inhalation and exhalation and stoppage of breath movement in between both. Purposeful change in breath rhythm brings so many changes at both body and mind level.

During acute stress, due to excitation of limbic centers, our sympathetic system gets activated to result into acceleration of metabolism. Thus the

result is overwork and then exhaustion of all organs. When we start pranayama, our limbic system gets depressed. Because of that the sympathetic system gets depressed and parasympathetic system gets activated. So the overall result is rest-relaxation of every cell-organ. In this way, within 10 to 15 minutes, the stress mechanism terminates into the state of quietness or calmness. New scientific researches prove that during pranayama, nervous tissue in midbrain secretes endorphin which is a natural pain killer, depresses pain center of limbic brain.

Regular practice of pranayama, sustains the action of endorphin and also some other like enkephalin, GABA, melatonin etc. This helps to change the habit of irritability of brain tissue (ultimately, habit of stress).

Following practices can be done by the person having above problem-

- 1) Just close your eyes and carefully watch your breath./Just count your breath up to 200 to 300.
- 2) Just slow down your breath. Take a slow, deep inhalation and then exhale slowly as per capacity.
- 3) Do **anulom- vilom** i.e. alternate nostril breathing. (Slowly inhale through left, exhale through right and then inhale through right and exhale through left. Repeat this cycle, at least for 20 times). Let there should not be much sounder during breathing.
- 4) Do **bhramari pranayama**- Inhale deeply and slowly and then exhale with producing honey bee sound.....This is very effective practice for cardiac patients. New researches proved that during this pranayama, activity of nitric oxide gets sustained which relaxes the smooth muscles of blood vessels. This increases the diameter to improve blood supply to vital organs. This phenomenon also helps in ischemic heart diseases, to improve blood supply to myocardium. Regular use of bhramari helps to manage stress induced hypertension or stress in hypertension.

For the proper effect, one has to complete 20 rounds of **Bhramari twice or thrice a day**. This is safe practice who have undergone through **angioplasty** or by pass surgery.

5) Practice of shavasana along with breath awareness also helps to avoid the hazardous effect of stress on metabolism and blood vessels.

6) Ujjayi and Bhastrika Pranayama also help to recover from mal stress.

Precautions during breathing practices-

Avoid prolong kumbhaka, especially after angioplasty, bypass surgery. It should be within 4sec to 12 sec.

If the hypertension is uncomplicatory then, one can do kapalbhati. But the strokes of kapalbhati should be gentle and rhythmic. Avoid extra jerks.

About asana-

The asana which holds the breath should be avoided or do cautiously (yogamudra, paschomottanasana etc) Following asana are safe in heart attack patients-

Simple bhujangasana/Marjarasana/ Ek pada uttanasana/ Simple pavanmuktasana (without raising head)/setubandhasana/crocodile variations/ vajrasana/parvatasana/side bending chakrasana/konasana etc.

Surya Namaskar, Shoulder Stand Pose (Sarvangasana), Shirshasana maintain sound state of circulatory system.

ii) Diet management-

If we follow the habit of **yogic diet**, we can avoid the accumulation of extra cholesterol in blood vessels and also maintain proper viscosity of blood vessels. It has been proved that satvic diet is responsible to control the risk of hypercholesteremia and atherosclerosis. Heavy combination though it is vegetarian may become tamasik.

One should take plenty of raw food – the natural food- which avoids the absorption of extra fat from the intestine.

iii) Exercise management-

Regular practices of simple asana keep the movability of joints and avoid stiffness of muscles.

Regular walking habit is also very useful to energize the heart muscles.

Practice of silency, nonreactiveness keeps the psycho-physiological equilibrium . Here is the role of **yama and niyama**. It is nothing but the way of thinking and action. This is what we can say as the cultivation of correct psychological attitude- the spiritual personality.