

# Lifestyle Changes in Management of Coronary Heart Disease

**(Lifestyle changes in conjunction with yogic disciplines like *Shavasana* (Progressive deep relaxation leading to Corpse Posture) and Meditation have been found to be successful in the treatment of coronary heart disease. Universal Healing Program (UHP), conducted since 1991, for integral management of coronary heart disease, has proved to be a powerful tool for in-depth stress management to increase spiritual strength (ISMSS) of the patients and to make lifestyle changes, without a sense of deprivation. Thousands of patients have benefited by practice of UHP).**

## Lifestyle Changes

Doctors advise their patients to change their life style in terms of following a particular diet and exercise program to maintain health. The term lifestyle changes used in this chapter go far beyond these physical measures. It includes an individual's way of living and way of feeling.

## Coronary Heart Disease

Coronary Heart Disease (CHD) or Cardio-Vascular Disease (CVD) in the young is the no.1 health problem of the world today. The tell-tale causes of coronary heart disease are: heredity, high blood pressure, diabetes, high serum cholesterol, sedentary habits and smoking. The way of living and the way of feeling appear to be important factors in its increasing incidence. In my experience of over 50 years as a cardiologist, I have found that hostility, lack of social support, job and family stress are the major causes of heart attack amongst the young.

**While we continue to see unprecedented strides in medical sciences, we are also being overwhelmed by an almost unmanageable increase in health care costs. Lifestyle changes may hold a very strategic key in making of a major breakthrough in the containment and reduction in health care costs.**

In the past two decades, much knowledge has been gained in the direction of Primary Prevention of CHD, as a result of increased understanding of the causes of disease.

In 1948, the Framingham Heart Study, under the direction of the National Heart Institute, now known as the National Heart, Lung, and Blood Institute or NHLBI, embarked on an ambitious project in health research. Over the years, careful monitoring of the Framingham Study population has led to the identification of the major CHD risk factors like high blood pressure, diabetes, obesity, smoking and sedentary habits. The study has also shown a great deal of valuable information on the effects of related factors such as: High Blood Cholesterol, High Blood Triglycerides, Low HDL and high LDL cholesterol levels, Age, Gender and Psycho-social issues. Quite a few of these factors can be managed as shown below.

**Control of Risk Factors:**

Heredity and age are uncontrollable factors; however, many factors have now come under control through lifestyle changes and therapeutic measures.

**Family History:**

Early death due to myocardial infarction or stroke in mother, father and immediate kith and kin, maternal and paternal brothers and sisters, below the age of 60, is considered strong family history.

**High Blood Pressure**

Control of high blood pressure is now possible through medical measures with only few significant side effects. (Target: BP Less than 140/80, Satisfactory control of diabetes: HBA1C below 7)

**Lipids**

Control of culprit LDL-C through an adequate dose of statin has mitigated the complications of diabetes a great deal. Statins have revolutionized lipid management in recent years. Aggressive control of LDL cholesterol is recommended as the primary goal in lipid analysis for screening and risk assessment. In the most recent guidelines, high dose lipid lowering medications are recommended for patients with at higher risk of coronary events. (Source: ACC/AHA guidelines. JACC 2013, Nov).The evidence for benefit of additional therapy to control triglycerides when on high dose of statin therapy is limited. (Source: European Heart Journal 2012, 33: 1633, 1701). Statin therapy benefits fully outweigh the limited chance of developing diabetes.

**Coronary calcium score**, which can be studied with low radiation, gives a fair estimate of the severity of atheromatous changes in coronary arteries. .

**Tobacco and Alcohol**

Consumption of tobacco in any form increases the risk by three times. So does excessive consumption of alcohol.

**Stress**

Mental Stress plays a major role in CHD and its management is most important in primary prevention of CHD.

**Hostility**

It has been observed that physical measures alone, like control of weight, regular daily exercise like walking for 30 to 40 minutes, control of high blood pressure and diabetes, restriction of calories derived from fat, avoidance of smoking and excessive use of alcohol, have not been successful in mitigating the incidence of CHD.

The Pooling Project Data has shown that while only ten per cent of those with more than six risk factors eventually had a heart attack, sixty per cent of those who had heart attack had none or only one of the conventional risk factors operating in them. In one report from USA, out of 500 patients with stents, as many as 75 restenosed within 12 months. These stents were even medically treated to prevent occlusion. The cause of higher restenosis rate was probably increased hostility score in these patients. Researchers postulated how hostility per se can affect the endothelium of coronary arteries through chemical changes.

Research findings at Duke University Medical Center, N.C., USA also support the notion that hostility plays a role in the pathogenesis of coronary atherosclerosis and point to the potential importance of interaction between hostility and other risk factors. Another study at McGill University, Montreal, Canada, also shows that hostility may predispose coronary artery disease patients to a more adverse prognosis.

### **Universal Healing Program (UHP)**

In the above context, Universal Healing Program and life style changes become significant in treatment of Coronary Heart Disease. While most people will readily agree to the idea of lifestyle changes, the actual implementation at the individual level falls in the category of 'easier said than done'.

We have been conducting a program since 1991 to promote healthy lifestyle changes in treatment of coronary heart disease. This program has an impressive track record of benefiting more than ten thousand patients by helping them to change their lifestyle. The program not only heals the coronary arteries but heals the individual as a whole. Thus, the program has come to be known as Universal Healing Program. The UHP has five components.

The five components of the program are: Diet counseling, walking at moderate pace on level ground for about 30 - 40 minutes daily, stretching and relaxation exercises leading to progressive deep relaxation (*shavasana*), meditation--visual imagery, and group discussions with emphasis on sharing of feeling.

This five-point program works in unison i.e. each one supports the other. The writer's experience with this program corroborates the research findings of Dr. Dean Ornish and others in the USA. It has been observed that after practicing UHP over a period of six weeks, a majority of the participants not only reports reduction in the number of episodes of anginal pain but are also motivated to make lifestyle changes, such as, giving up smoking and alcohol, and choosing low fat vegetarian diet which is rich in complex carbohydrates. Within three months, their level of hostility also drops markedly. Most of them show an improvement in left ventricle ejection fraction on 2-D echo-studies.

### **Benefits of UHP**

The practice of UHP empowers people to change their lifestyle without a sense of deprivation. It reduces the fear of the disease. UHP controls all harmful effects of stress and assists therapeutic measures to prevent plaque rupture. It heals isolation, reduces hostility, self-centeredness and cynicism, all of which are proven toxins to the heart and to the body as a whole.

UHP is thus an important part of the management of coronary heart disease. Conventional management includes medication, lifestyle changes and intervention with angioplasty or bypass surgery when necessary.

### **Integral Management**

Integral management implies addition of in-depth stress management to increase spiritual strength (ISMSS), by programs like Universal Healing Program.

Integral management has three distinct advantages:

1. It empowers the participants to make lifestyle changes.
2. It helps to overcome the fear of the disease.
3. It makes conventional treatment more enduring and effective.

### **Heart Rate Variability and UHP**

Self-centeredness, cynicism, hostility, hatred, jealousy, anger, frustration and vanity reduce the Heart Rate Variability (HRV). HRV is not cardiac arrhythmia or irregular heartbeats; rather it is a variation in the sinus rhythm itself as it changes from beat to beat. This beat to beat time variation is in milliseconds and cannot be appreciated in a routine electrocardiogram. It can be captured only by advanced sensitive computers. In a normal person, the HRV is rhythmic with an average value of more than 50 milliseconds between beats. Negative emotions like anger, frustration, envy, worry, etc. lead to decrease in normal HRV. Positive emotions like caring, love, appreciation and compassion allow smooth, even and harmonious HRV. The disturbance in HRV is a sensitive index of mind and body malfunction. Decrease in HRV puts extra wear and tear on blood vessels and the heart. Decrease in HRV can also cause unhealthy changes in the immune system. Increased sympathetic activity with dampening of parasympathetic pathways diminishes heart rate variability and also makes it non-harmonious. A Multi Centre Post Infarction Research Group study found that in patients recovering from a heart attack, low HRV, less than 50 milliseconds, results in 5.3 times higher chances of sudden death. Abdominal breathing, *Shavasana* and meditation bring about a reduction in the sympathetic activity and thus have beneficial effects on HRV.

### **Diaphragmatic Breathing**

Diaphragmatic breathing helps to clear fatigue. It enhances the lymphatic flow, strengthens the immune system, clears free radicals, and increases blood pH level. It also conserves energy by switching from the ergotropic energy consuming sympathetic system to the tropotropic energy conserving parasympathetic system. In management of acute stress, abdominal breathing gives relief as quick as nitrates in angina.

### **Stretching and Relaxation**

Moderate stretching and relaxation exercises followed by *Shavasana* and meditation bring about the desired relaxation with all the helpful changes, viz. increased secretion of endorphins, decreased formation of lactic acid and reduction in secretion of noradrenalin and adrenalin. Balance between parasympathetic and sympathetic or Yin and Yang or right and left brain will promote health. Yin and Yang in Chinese culture are used for female and male characteristics. The right brain stands for intuitive instinct and left brain for hard logic. In relaxation mode parasympathetic tone is more than sympathetic, Yin is greater than Yang and the right brain is more active than the left. While in the stress mode the reverse occurs.

Measures of prevention directed towards conventional risk factors for atherosclerosis are well established. Control of LDL cholesterol has been unequivocally shown to reduce the cardiovascular events in individuals at risk of a heart attack (primary prevention) or in individuals who have already suffered a heart attack (secondary prevention). Aggressive reduction of LDL cholesterol with diet, exercise and

medications is safe and effective in reducing mortality from cardiovascular events. Also the role of control of high blood pressure and diabetes may not be underestimated in prevention. Aspirin has shown to be very effective in secondary prevention but it is not recommended for primary prevention in all individuals. It can be recommended for individuals with moderate risk of cardiovascular events including those with significant family history, diabetes and hyperlipidemia. Routine use of vitamin B6 or folic acid and supplementation of trace elements like selenium have not been shown to prevent coronary disease or myocardial infarction. Since emotional and mental stress appears to play a significant role in plaque rupture, control of stress could be a logical method to prevent heart attacks. Various methods for stress reduction and lifestyle modification have been studied including meditation, yoga, biofeedback and exercise, with evidence of clinical benefits. Stress reduction may reduce platelet aggregation and protect against risk of thrombosis.

## **Diet**

Specific diets have been used to retard atherosclerosis. Most people can maintain a healthy balance of HDL and LDL cholesterol by eating a diet that is low in saturated fats and high in fiber, which is found in whole grains, vegetables, legumes and fresh fruits. Other preventive measures for controlling cholesterol and reducing the risk of plaque rupture include, non-smoking, maintaining a healthy weight, doing regular exercise and controlling high blood pressure, which can damage the arteries and encourage formation of soft plaque.

### **What if Diet changes do not lower cholesterol?**

Some individuals cannot lower cholesterol to ideal level despite dietary discretion. These individuals can benefit from cholesterol-lowering medications. Many effective and safe lipid-lowering medications are available, which, when given in adequate doses, can stabilize the soft plaque in patients suffering from unstable angina. For prevention of soft plaque formation these medications should be used in all individuals who are at high risk of coronary events. High-risk individuals are people with family history of a heart attack in immediate family members below the age of 60, smokers, those having high blood pressure, diabetes mellitus, and those who have recovered from a coronary episode. The use of lipid lowering medications to prevent or stabilize soft plaque could reduce the risk of a heart attack as well as the need for invasive procedures such as coronary bypass surgery or balloon angioplasty. At the time of writing this, Atorvastatin is considered very effective and safe.

Cardiovascular outcomes trials performed after approval for statins have shown that LDL cholesterol is an appropriate surrogate end point because there is a direct relationship between lowering LDL cholesterol levels with a statin and a reduced relative risk of cardiovascular events. Given this history, physicians have appropriately focused treatment decisions on obtaining target LDL cholesterol goals. However, recent guidelines suggest that dose of statins may be more important compared to the ultimate LDL level reached. In other words, high risk patients should be maintained on high dose of statins despite very low LDL levels if they tolerate these medications. Despite high statin dose if patients have high LDL levels, one may consider other adjunctive therapy. With proper diet control, exercise and stress reduction, this unresponsiveness to therapy is minimized. Recent research indicates that statins may also reduce the risk of colon cancer by 51%, prostate cancer by 56%, macular degeneration by 50%, glaucoma by 40%, erectile dysfunction by 30% and rheumatoid arthritis by 50%.

Other factors that lead to the formation and subsequent rupturing of soft plaque include oxidation of LDL cholesterol, high blood pressure, and bacterial infection. During oxidation, oxygen in the blood makes cholesterol sticky and more likely to adhere to artery walls. High blood pressure causes turbulence in blood that may damage the delicate linings of the arteries. Bacterial infection may cause inflammation that makes plaque weak and unstable. Physical and mental stress has been shown to significantly contribute to plaque rupture. Further, it increases the stickiness of the platelets, which are vulnerable to clot formation. The effects of stress are partly mediated by an increase in sympathetic activity. All studies related to coronary heart disease have shown that beta-blockers, which reduce sympathetic activity, are helpful in preventing the recurrence of a heart attack.

However, beta-blockers only partially neutralize the deleterious effects of increased mental and physical stress. The Universal Healing Program has proved to be a beta-blocker par excellence. It is not only effective like beta blockers in controlling the increased sympathetic activity but tackles the root cause of the problem of stress without any side effects whatsoever. Moreover, it protects against other mechanisms by which increased stress can lead to plaque rupture. Cytokine activation and neuro-inflammation are some of the putative mechanisms; however the exact mediators of deleterious effects of stress are not fully known.

**Universal Healing Program helps to control all the harmful effects of stress, which is the chief culprit. It provides a more robust method than hitherto known therapeutic measures to prevent plaque rupture and achieve plaque stabilization. Furthermore, it has plenty of other benefits like increasing the inner strength of the individual and promoting healthy life-style changes without the feeling of deprivation. It heals isolation, reduces hostility, self-centeredness and cynicism, proven toxins to the heart and the body as a whole.**

Many of today's common diseases, such as heart problems, diabetes and immune system disorders, may be due to turning on and turning off of various genes which result from complex interactions between genes and environmental factors. This is because the expression of human genome changes continuously due to modifications in DNA expression. Practice of *Shavasana* and meditation has a potential to prevent the alteration of healthy genes into disease-causing ones

Normally heart disease is considered to be a purely physical condition, with normal focus on discovering and eliminating risk factors like elevated cholesterol, high blood pressure, diabetes, cigarette smoking and other minor risk factors. In treating CHD, doctors & physicians have relied almost exclusively on the physically based therapies like surgical procedures, drugs, dietary manipulation, and exercise. As valuable as these approaches are, they are incomplete, frequently ineffective, costly, and sometimes hazardous. The other methods such as those employed by the Universal Healing Program have resulted in equal and often superior results with less cost and fewer side effects.

#### **Lifestyle changes with help of Yoga:**

The conventional treatment of coronary artery disease (CAD) is aimed at modifying the risk factors (hypertension, diabetes, and high-risk lipid profile), decreasing the frequency of angina, preventing sudden cardiac death and preserving the left ventricular function.

However, this approach does not take into account the assessment of the patient's inner strength. Inner strength can be determined by a person's ability to make lifestyle changes and to cope better with stressful situations. **The issue is to empower patients to make appropriate lifestyle changes.**

**The key issue in the rising incidence of CHD appears to be imbalance in the autonomic nervous system, the sympathetic tone being much higher than the parasympathetic tone. This imbalance can be corrected with the regular practice of Shavasana and Meditation.**

Universal Healing Program involves In-depth Stress Management to Increase Spiritual Strength (ISMIS). Along with conventional management, it helps to deal with the patient as a whole - mind, body and spirit. It is a holistic approach to make the patient an active participant in control, reversal and cure of his/her coronary artery disease.

### **Pathogenesis of acute heart attack**

Recent research in the field of cardiovascular medicine has improved our understanding of the pathogenesis of acute heart attacks. Initially, it was believed that gradual narrowing of arteries with decades-long accumulation of cholesterol deposition leads to complete blockage of the arteries supplying the heart, resulting in a heart attack. However, evidence has accumulated over the years that most of the heart attacks are not due to chronic arterial narrowing. Landmark studies by Ambrose et al and Little et al showed that most heart attacks occur in the arteries that had blockage of less than 50% as seen by angiography. So, what really causes a heart attack? Dr. Michael Davies, a pathologist from England, observed in patients that die from a heart attack, that there is a large blood clot at the site of a relatively small plaque (equivalent to angiographic narrowing of less than 50%). The next very important question was, 'what caused this blood clot at that particular site?' It was discovered that "something" leads to plaque rupture triggering the development of a massive blood clot in the coronary artery. This can cause sudden blockage of a major coronary artery leading to a massive heart attack. If the blood clot is not completely occlusive it can drift into smaller arteries resulting in a milder heart attack.

### **Plaque rupture**

The most important question is to identify the triggers for plaque rupture. Researchers are actively working on various fronts to identify the factors responsible for plaque rupture. Some researchers have focused on the physical characteristics of a plaque to identify the plaque at risk. When plaques are visualized by intravascular ultrasound, some plaques appear soft (ultrasounds are not reflected well from these plaques) and others are fibrous or hard. The soft plaques usually contain large amount of cholesterol, which is separated from the artery wall by a thin fibrous cover. Should the cover tear or rupture, blood from the artery wall washes over the cholesterol and triggers the clotting process. This clotting process is initiated by large numbers of platelets circulating in the blood that rush to the damaged artery wall. But what causes these soft plaques? If we can prevent the formation of new soft plaques and stabilize the ones already present, we can probably avoid a lot of heart attacks and sudden deaths.

Certain factors responsible for the formation of soft plaque and ultimately plaque rupture are well defined. LDL cholesterol, the lethal cholesterol, is the chief constituent of soft

plaque. HDL cholesterol, the healthy cholesterol, removes LDL cholesterol from the blood and carries it to the liver for disposal. So ideally, for the prevention of soft plaque formation, HDL cholesterol, the good cholesterol, should be as high as possible and LDL cholesterol, the bad cholesterol, as low as possible.

High density lipoprotein cholesterol (HDL) levels are positively affected by lifestyle changes, including weight reduction, smoking cessation and exercise. Even mild to moderately excess weight is associated with an increased risk of coronary heart disease. There is a consistent linear association between weight loss and HDL concentrations in both men and women. Weight gain results in reduction in HDL.

Sixty days of smoking cessation results in increased HDL levels. However, in those who begin smoking again, HDL levels return to lower levels after sixty days.

Today's challenge is to identify and treat dangerous vulnerable plaques responsible for myocardial infarction and death; to find and treat only angina-producing stenotic lesions is no longer enough.

### **Management after Angioplasty or Bypass Surgery**

In management of CHD, angioplasty and bypass surgery are not curative measures. All stents have an inherent tendency for restenoses. The following guidelines will help to prevent recurrence. A clinical cardiologist is the best person to guide the patient after undergoing intervention to prevent recurrence.

#### **Weight:**

Watch your weight. Even 3 kg weight gain increases the risk of recurrence.

#### **Blood pressure:**

Consistently elevated blood pressure above 140/90 increases the risk.

Diabetes: Post prandial blood sugar should be kept below 160. Glycosylated Hemoglobin (HbA1C) should be checked every six months and maintained between 6 and 7.

#### **Cholesterol:**

It may be checked every six months. The ratio of total cholesterol to HDL cholesterol should be below 4. LDL cholesterol should be below 70. Among Asians and people with a strong family history of coronary heart disease, LDL cholesterol should be kept below 60. For diabetics, LDL cholesterol should be kept as low as feasible. A ratio of LDL to HDL below 2 is highly desirable.

#### **Triglycerides:**

High triglycerides are a common trait among Asians. They are usually high in patients with uncontrolled diabetes. Triglycerides are not very harmful if the total cholesterol and HDL cholesterol ratio is below 4, LDL cholesterol is below 60 and the LDL / HDL ratio is below 2. Control of intake of simple carbohydrate in diet reduces triglycerides. Atorvastatin is by far most effective and safe treatment in lowering LDL cholesterol. Triglyceride lowering medications are not always safe and may not be combined with statin therapy.



**Exercise:**

Regular exercise of walking on a level surface for 40 minutes at normal pace is recommended. To reduce weight, experts recommend walking at a moderate pace for 30 to 40 minutes daily. The body tends to burn fat while walking at a moderate pace rather than at a fast pace. During heavy exercise the body tends to burn carbohydrates because carbohydrates burn quicker than fat. On the other hand, prolonged rhythmic light exercise provides an opportunity for the body to burn fat as fuel. Research has further shown that regular light exercise reduces hunger. Thus, when you are under stress or experience isolation, you benefit doubly by doing light exercise.

**Tobacco:**

Tobacco in any form significantly increases the chance of a recurrence.

**Isolation:**

Isolation plays an important role in the cause of obesity. The present social structure breeds isolation. Some seek a cure for isolation in tobacco; others try to fill their inner emptiness by overeating. This is a kind of compulsive obsession. Many indulge in it in spite of knowing its ill effects. On such occasions if one meditates for a while, compulsive behaviour can be transformed into behaviour of choice. Meditation calms down your body and mind to such an extent that you discover why you overeat. Then you do not feel the need to overeat. Meditation is an antidote to isolation. It creates a feeling of oneness and heals isolation.

**Correct Way to Eat:**

People today do not have time to eat at ease. They eat while doing other activities. Food is often gulped down without proper chewing. This leads to overeating. Adequate chewing makes food more enjoyable. If you concentrate on eating, you know what and how much you have eaten. It enables one to make a rational choice to avoid sweet and fatty food. Acute hunger militates against rational choices in eating. Hence it is easier to control weight by eating small quantities more frequently. The intake of light snacks or fruit twice a day besides two regular meals reduces fluctuation in blood sugar. One should eat enough to satisfy hunger but avoid overeating.

**Taste:**

When you choose food with less fat and sugar, you need to pay adequate attention to taste. A diet should be such that it can be adopted easily and made acceptable to the whole family. It should be made tasty by using a variety of clever arts in cooking. Nature has bestowed every object of food with unique taste and smell, which can be made tastier by adding salt and spices. Some vegetables contain natural oils. The use of non-stick utensils in cooking reduces the use of oil. Similarly, one can reduce the use of sugar to some extent by depending on the natural sweetness of fresh and dry fruits. Sprouted beans add variety to meals. Green salads with dressings of yogurt with fruit are also tasty to eat. One needs to get used to new tastes by controlling one's mind. Our taste buds are renewed every 15-20 days. Our tongue therefore easily adapts to a new taste after three weeks.

## Dieting

Following table explains recent **Non-Conventional** approach for reducing the weight:

Conventional	Non-Conventional (Recommended)
Restriction of calories. Quantity of food consumed is less.	Only restriction of fat calories. Quantity consumed sufficient.
Feeling of hunger and deprivation	Feeling of satiety due to consumption of complex carbohydrates and proteins.
Lack of energy and feeling of fatigue	Feeling of energy due to sufficient calorie intake.
The body tries to conserve the weight in the face of lack of food intake, by diminishing the basic metabolic rate (BMR) which does not help weight reduction.	The consumption of adequate amounts of carbohydrates leads to increase in BMR, which helps in weight reduction. When a diet high in carbohydrate and low in fat is eaten, more thyroid hormone is converted to the active form. It results in increase in BMR.
As the weight loss is not achieved as desired, motivation is dampened and people tend to go off the diet.	As weight loss becomes easier to achieve, there is a fillip to stick to chosen regime.
There is a rapid gain in weight when a person gives up dieting as during dieting, fat cells are reduced in size not in number.	Fall outs are few. There is a steady weight loss.
Yo-Yo dieting leads to frequent weight fluctuations with a higher risk of heart disease.	They continue to enjoy the new way of eating

There is a Zen proverb “As you perform one activity, so you perform all activities.” If you eat fast, you are likely to live your life fast. If you feel nourished by food, you learn to look for nourishment in many other ways. If you choose healthy food, you are likely to make healthy choices in other spheres of life too. If you eat with concentration on your food, you are inspired to lead your whole life with full consciousness and awareness.

If we choose restraint in life, its effects prove more beneficial. Self-imposed restraint creates a sense of freedom. When you decide to abstain from fatty foods and sweets to reduce weight, you easily obtain the strength to achieve your goal, because you have accepted the restraint without any pressure from the outside. Strengthening of will power by meditation helps in getting rid of any obsessive behaviour, compulsion or addiction.

It is necessary to understand an overweight individual’s social, familial and psychological background to deal with the problem of obesity. While counseling a person with gross obesity, one should have adequate patience and compassion. It should be explained that even a small reduction in weight leads to a large benefit in health. **A weight reduction of only 2-3 kg yields appreciable relief in pain in the knees and significant improvement in a heart patient’s ability to work.**

## **Spirituality**

Eleven major medical schools in the US have adopted courses devoted to 'spirituality and clinical practice,' and most medical schools have expressed interest in creating these programs. This is truly a historic development. Herein lies the future of medicine: combining our best science with eternal spiritual insights. This approach alone is healing; this approach alone will endure. Our program is lighting the path into the next century and is helping many acquire the wisdom we shall need to survive.

The inescapable conclusion from our experience with UHP is that successful treatment and containment of coronary heart disease require both conventional allopathic treatment and strengthening of the spiritual qualities of man. UHP has proved to be a powerful tool for in-depth stress management to increase spiritual strength (ISMSS). Let us practice abdominal breathing, *Shavasana* and meditation and recommend them to our patients in our prescription.

## **Shavasana: Key to Health and Bliss**

Shavasana is the King of *Asanas*. Physical and mental relaxation achieved by *Shavasana* has no equal. During *Shavasana* slow rhythmic alpha activity appears in the frontal lobe of the brain, and various chemical changes occurring in the body promote healing by increasing the immune status of the individual.

The technique of Shavasana relies on the premise that for optimum relaxation of muscles of the body, prior stretching of muscles is necessary. The stretching must be just enough to create a pleasant sensation. The awareness of an individual doing this exercise must be focused on the process of stretching and relaxation. In *Shavasana*, progressive deep relaxation is achieved by various stretching and relaxation exercises of the body and keeping the awareness on the process. Normally to practice *Shavasana* one lies down flat on his back. However, *Shavasana* can be practiced even in a sitting posture. Practice of *Shavasana* begins with bringing one's awareness onto one's body. Normally our mind has a tendency to wander. Bringing the awareness to the body and keeping it there is the vital step. And if the mind wanders, gently bring it back to the body.

For Quick Shavasana, the practitioner lies flat on his back in a relaxed position. Having brought his awareness to his body and gently keeping it there, he contracts the muscles of the whole body, raising his head a little off the ground and his arms and the lower trunk with both the legs also lifted a little off the ground. He experiences stretch in all the muscles for a few seconds and then relaxes them bringing the body back to position and experiences the relaxation in the whole body.

In this relaxed posture, forgetting the body, the practitioner focuses his awareness on the natural process of breathing. Without making any effort to change breathing, he becomes a witness to every single breath that goes in through the nose during inhalation and every single breath that comes out during exhalation. This way he becomes one with his breath. He remains in this blissful state for two or three minutes. Then he takes in a deep breath and exhales slowly. He gently opens his eyes, makes some movement of his hands and feet, turns on his side and assumes a sitting position. The whole exercise would take less than five minutes but it refreshes the practitioner for a long time. It is easy to see that a complaint of lack of time to do this simple Asana is irrelevant. Those who have complaint of back pain may not contract the muscles of the

whole body. They may contract only the muscles of the hands and lower trunk, raising only the hands and the legs off the ground, keeping the upper trunk and head in a resting flat position.

Our physical body, mind and intellect are outer layers enveloping our Inner Self. Our identification with the impermanent outer components of our being causes all our sorrows. Shavasana helps us to reach our innermost Supreme Self and gain enduring peace and happiness.

We are both actors and spectators in the great drama of existence,” says physicist Niels Bohr. The Soul is ‘two-in one,’ the actor “i” and the spectator “I”. The actor “i” goes through one's roles in life. The spectator “I” is the Atman, the sheer witness. Normally we lump the actor and spectator together. Education does not prepare us to differentiate the two. The essence of spiritualism is the separation of the actor “i” and the spectator “I” and the resultant freedom from emotional involvement in the roles of the former. That is the gist of the Vedas, the Upanishads, the Gita, the Yoga Sutras and all. Practicing Shavasana is training oneself to identify oneself with the spectator and keep aloof from the actor. At night review the performance of actor “i” for the day, pull it up for shortcomings and praise it for good performance, keeping nothing for your true spectator self and be unburdened to sleep with a peaceful mind.

Shavasana helps one develop spiritually and thereby empowers one not only to meet the challenges of daily existence with inner detachment but also to live a rewarding and fulfilling life.

### **Meditation: Prescription for the present day ills**

The last two decades of the fascinating twentieth century have witnessed an unprecedented change in many of our values, systems and customs. This change invites a challenge to look at one's inner self and external situation and balance these two distinct and yet interrelated worlds. The balance between the inner and the outer worlds – the spiritual and the physical – is the only valid response to the demands of life in the present times for the survival of human race. The practice of meditation helps to overcome the worry and stress of modern life and obtain a state of calm that at once refreshes the mind and relaxes the body, and thus achieves a balance between the spiritual and the physical. The word "Meditation" is derived from the Latin word 'Meditari', which means to heal. Meditation heals the whole individual – body, mind and soul.

### **Why Meditation?**

The human mind keeps churning out thoughts constantly. It is always engaged in thinking of the past, or of the future. It seldom remains in the present. It is estimated that an average person remains in the present hardly for an hour and a half during 16 hours of his waking period. This wandering state of mind causes stress, which alters the immune response and causes many stress-related diseases. The greatest limitation comes from our perception that we are merely individuals limited in space and time. Man sees himself as a separate entity. This is an illusion, even if a stubborn one, and creates isolation. The feeling that the other person is separate from you is the root cause of hostility, self-centeredness and cynicism. In fact, we are also eternal – limitless in time and space without a beginning or an end. When the individual experiences his real identity, he feels connected with the rest of the world, wisdom dawns on him and

his capacity becomes unlimited. Meditation has the potential to enable the individual to experience his real identity. But meditation is even more than this.

### **What is Meditation?**

Remember an activity in which you were totally engrossed. In such a state you did not realize how the time passed. Even when several hours passed you felt as if hardly a few minutes had elapsed. It is a wonderful experience. Your vision widens. Your time-sense expands. Such a condition is called "Meditation".

Meditation is simply bringing our total awareness on one point or subject. It may be our breath, a rhythmic sound or any other activity. There is nothing esoteric about meditation. It is easy and can be performed by anyone. In order to meditate, one need not empty or control one's mind.

Meditation brings our awareness on the process of what is happening in the present rather than on the goal. When we think of the goal, generally fear and worry accompany. But when the awareness is kept on the process, there is no fear or worry, and the process becomes more effective. Awareness of each moment is meditation. Meditation gives an experience of eternity of time.

### **Science of Meditation**

The human body has developed some self-regulatory mechanisms for its survival. In case of fear, the sympathetic nervous system is activated which prepares the individual either to fight or run away from the fear (flight). As the danger disappears the parasympathetic nervous system comes into action. This calms down the individual. Meditation activates the parasympathetic nervous system which makes secretion of hormones like adrenaline, noradrenaline and corticosteroid normal. As a result, the heart rate, blood pressure, blood sugar and cholesterol become normal. Blood becomes thin and the arteries dilate. The formation of lactic acid is also reduced which results in retardation of the aging process. Endorphins and neuropeptides are secreted from the brain. This brings peace and joy. Thus all the degenerative processes of the body are retarded and regenerative processes get accelerated. Moreover recent research has shown that meditation increases the heart rate variability.

It is found that the patients with HRV of less than 50 milliseconds have 5.3 times higher chance of sudden death amongst those recovering from heart attack. This is due to dampening of parasympathetic pathways. Meditation by increasing parasympathetic tone brings about the increase in HRV which is beneficial to health. HRV induces the corresponding changes in the cellular DNA and immune system also. Positive emotions like caring love and compassion increase HRV. A heart full of love for others is the best preventive against most degenerative diseases.

### **Benefits of Meditation**

Meditation has become a part of the prescription in the treatment of coronary heart disease, high blood pressure, diabetes, depression, insomnia, rheumatoid arthritis, peptic ulcer, certain skin diseases and even cancer. With only three minutes of meditation, oxygen consumption is reduced by 20% as against 8% reduction of oxygen consumption after six hours of sleep. The rate of increase of entropy (wear and tear) which is common to all living things also drops during meditation.

Many industries use meditation to raise productivity and efficiency of their employees. Educational institutions have introduced meditation in the curriculum to increase concentration on the studies. It also makes students more disciplined and prepares them to meet the challenges of the present times.

Meditation can be extended to many other areas of life. One can even meditate while going about one's normal business. For example, if you bring your awareness on the process of eating, you will not overeat. That is why overweight people are advised to practice meditation. Even while you are walking, if you bring your awareness on the process of walking, the benefits are more than otherwise.

Meditation teaches the art of living efficiently and beneficially and developing a laser-like mind that can penetrate any problem. By an inner mastery, it is possible to control all outer events. The realization of soul-force brings forth the qualities of the soul – love, compassion and freedom from fear. This conviction has grown from our experience with the Universal Healing Program which we have been conducting since 1991.

### **Preparing for Meditation**

Select a quiet corner. However, with practice you will be able to do it anywhere and at any time. It can be done in sitting position on the floor, in a chair, lying on your back or even in the standing position. Meditation becomes easy after progressive deep relaxation called *Shavasana*. If there is no time for *Shavasana*, one may take some few slow deep breaths or do abdominal breathing which will calm the mind. Whenever you feel upset, taking a few slow deep breaths can break the stress cycle and calm you down. Even when you cannot control the situation, you can always control your breath and change your reactions to those circumstances.

During meditation, normally keep the eyes closed to avoid distraction. It is equally important to keep the body still. However the body tends to move in the beginning. Ignore it and continue meditation. If you still feel uncomfortable, you may move a little to assume a more comfortable posture. Meditation can also be done by becoming one with the rhythmic sound like Ohm. One may not meditate immediately after meals. During meditation, the blood flows towards the brain whereas blood is needed by the digestive system after the meal. Normally one may meditate for 20 minutes in the morning and the evening. The schedule should be free from stress. Meditation even for 2 to 3 minutes is beneficial. More important is regularity in practice of meditation rather than the length of time.

There are several techniques of meditation. Here is one that is simple to adopt:

- Sit on the floor cross-legged. It is called *sukhasana*. (A comfortable sitting posture)
- Rest your hands on the knees with palms upwards and fingers half-bent in a relaxed position.
- Sit erect and still. However, avoid stiffness. Gently close the eyes.
- See with the closed eyes that there is no stress in any part of the body from toe to head.
- Do abdominal breathing to quieten the mind.
- Now bring your awareness to the process of breathing. Experience cool air of the breath going in and warm air coming out of the nostrils. Be one with the process of breathing. Let not a single breath go in or out without your awareness.

While breathing you inhale not just air but also Prana – Life-Force and Light. Thoughts will come and go but you remain unconcerned. Keep your awareness on the process of breathing. If your mind still wanders during meditation, gently bring it back to the breathing. Such efforts are part of meditation. Continue meditating till you feel comfortable. Now gently open your eyes and slowly come out of meditation.

### **When is Meditation successful?**

As soon as you bring your awareness to the process of breathing and become one with it, meditation begins. During meditation time-sense expands. One cannot realize how much time has elapsed. One experiences profound peace of mind. At this time slow alpha waves are produced in abundance from the frontal lobe of the brain.

### **Why some individuals find Meditation difficult?**

You cannot force yourself to meditate. It becomes easy when done in an effortless way. One tends to put off meditation in today's hectic life. In fact, it is the right time to meditate as you are compensated by increased efficiency. Some people distrust their technique of meditation and are in search of a better method. In fact, all the methods lead to effective meditation. Some think that if the correct method is not followed, it may cause harm. Such a fear is baseless. Meditation is one area where judgment or competition is just out of place. Meditation does not have to be spectacular for it to have a positive effect on health. On a day to day practical basis it can be used simply to reduce stress and tension at work or at home and bring about a new level of calm and well-being.

### **Visualization**

Visualization is an imaginative process of forming pictures in the mind's eye. When we visualize in a non-meditative mood, i.e. when our mind is full of other thoughts, visualization is not effective because it is unfocused and passive. However, during meditation, visualization becomes active and focused. Like the sunrays converging through a magnifying glass burn the paper, visualization during meditation brings about the desired effects. In UHP the participants visualize in a variety of ways: how their coronary circulation and function of heart improve and how they feel energetic in their daily routine. The beauty of this visualization is that though there may be no anatomical or physiological relevance to their imagination, it improves the clinical condition of the patient.

Visualization also includes forgiving an individual who has done a great wrong or injustice to you in the past. This is a very difficult task. However, the participant is taught not to condone the act which was obviously wrong and unjust. He is guided to bring in front of his mind's eye the image of the person who did the wrong and believe that the individual was ignorant and childish in his behavior and hence may be pardoned for his irresponsible act. Thus the practitioner of visualization becomes free from the feeling of hostility against that individual. In other words, the thought of that individual loses the power to hurt him. Similarly, if the person himself is suffering from a sense of guilt, having done some wrong in the past, he may bring his own picture before the mind's eye and forgive himself for the wrong act. This does not necessarily mean that he absolves himself from the responsibility of the wrong deed. He only releases himself from the feeling of guilt which may keep haunting him. After getting freedom from the sense of guilt he may resolve not to behave in such a manner again in future. So, the

whole exercise of visualization during meditation is a very powerful weapon to heal the deep-rooted isolation. A participant in Dr. Dean Ornish's program, who was a retired army officer, said that the act of forgiving through visualization is more powerful than the most powerful weapons he ever used in the army.

Five thousand years ago, Charak the great Indian sage-physician, gave his prescription for health and wellbeing. He said, "He only can remain healthy who takes regulated diet and exercise, who deliberates all his actions, who controls his sensual pleasures, who is generous, just, truthful and forgiving and who can get along with his kinsmen". This wisdom of the sage has today been amply verified by our own experience with the Universal Healing Program and by recent scientific investigations.

### **Scientific evidence for UHP**

The following observations provide scientific support to UHP to make it an essential component of evidence based total management of coronary heart disease:

John Denninger, a psychiatrist at Harvard Medical School, is leading a five-year study on how the ancient practices affect genes and brain activity in the chronically stressed. His latest work follows a study he and others published earlier this year showing how so-called mind-body techniques can switch on and off some genes linked to stress and immune function. "There is a true biological effect," said Denninger, director of research at the Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital, one of Harvard Medical School's teaching hospitals. "The kinds of things that happen when you meditate do have effects throughout the body, not just in the brain."

In a study published last year, scientists at the University of California at Los Angeles and Nobel Prize winner Elizabeth Blackburn found that 12 minutes of daily yoga meditation for eight weeks increased telomerase activity by 43%, suggesting an improvement in stress-induced aging. Blackburn of the University of California, San Francisco, shared the Nobel medicine prize in 2009 with Carol Greider and Jack Szostak for research on the telomerase immortality enzyme, which slows the cellular aging process.

Not all patients will be able to stick to a daily regimen of exercise and relaxation. Nor should they have to, according to Denninger and others. Simply knowing breath-management techniques and having a better understanding of stress can help build resilience. Yoga and meditation are tools for enabling us to swim in difficult waters.

### **Conclusion**

Coronary heart disease, which starts early in life, can be effectively prevented and controlled by a healthy lifestyle and with proper medical attention to conventional risk factors. Lifestyle changes also hold another key strategic advantage in healthcare. They would, in fact, lead to a major breakthrough in the containment and reduction in healthcare costs.

While advising lifestyle changes, if the doctor's advice is dispensed with compassion and reassurance, patient's belief that he will be cured will be strengthened. Practice of Shavasana not only heals coronary heart disease but also enhances the humane nature of participants leading to better humankind.



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