

The background of the cover is a photograph of a full moon in a clear blue sky. Below the moon, a range of mountains is visible, with the lower slopes covered in snow or light-colored rock. The overall color palette is dominated by various shades of blue and white.

# SHAVASANA

## Key to Health and Bliss

**DR. RAMESH I. KAPADIA**  
Author of *Primer of Universal Healing*

*The whole  
purpose of human existence is  
to experience the divinity within.*

*Swami Vivekanand*

(Shavasana helps to experience that divinity.)

# Shavasana

## Key to Health and Bliss

Dr. Ramesh I. Kapadia



Navajivan Publishing House  
Ahmedabad-380 014  
India

# Consciousness

Now we are into an era of technology of Consciousness or Science of Consciousness. Technology or Science is objective. It is an application of reason and tested knowledge. Consciousness is however subjective, immeasurable, almost undefinable. Today science has realised its own limitations. It has reached dead end. In the effort to break this dead end are the seeds of new science – science of Consciousness. Scientists have realised that consciousness is more basic than matter.

To keep peace and live in accordance with natural law, we have to develop higher states of consciousness. What is consciousness? Consciousness is the essence of life. It is just like a sap for the tree. Every word that we speak and act that we perform is an impulse of consciousness. The whole universe is the expression of consciousness. Since consciousness is the most basic element of every one's life, knowledge of consciousness is the basic necessity for every one to exist and enjoy life to the full.

To experience qualities of Consciousness, we have to practise shavasana and meditation. **Meditation as well as shavasana is a mental technique to find Inner Peace.** It is world of peace,

bliss and happiness. According to Maharshi Patanjali, Yoga is not a therapy, it is a discipline. A discipline is needed even when you are in good health. Yogasutra has clearly stated that Shavasana and Meditation must be practised consistently with complete devotion, perseverance and regularity.

To make yoga accessible to every one whether he or she is a home maker, office goer, student, factory worker or an agriculturist, yoga should be viewed as being independent of an ascetic lifestyle. One can enjoy the bliss and peace of meditation without having to adopt an ascetic way of life.

Consciousness has many definitions. Very simply : Consciousness is awareness of one's self and of others. In human being both exist. In animal, there is only awareness of others, not awareness of itself. It is a more limited awareness. In plants the awareness is even less. In the crystal it is still less. But nevertheless it is there.

Basic components of our bodies are the cells. Now biologists have shown that cells can mutate consciously to adapt to the changed circumstances. In industrial accidents, when somebody's thumb has been cut off accidentally, the big toe of the foot is transplanted in place of the thumb. In time, the transplanted toe gradually begins to resemble the thumb. It is a relatively common operation. The question is, how do the cells of the toe know that they have moved to the hand. And how do the cells of the transplanted big toe know that they have to grow up to be the cells of the thumb.

Recently, important muscle from back of the chest has been transplanted on to the heart to strengthen the heart muscles. And in time, this voluntary muscle of the body begins to behave like the involuntary muscles of the heart. How do the cells mutate or change when transplanted to the heart? Biology has no satisfactory answer. However, once we accept the concept of overall Consciousness, it is obvious that body Consciousness changes the behaviour and growth of individual cells.

In a dramatic experiment by Paramananda Yogananda, Yogananda asked himself why a rose plant should have thorns. He went to a roseplant near his house and identified his consciousness with that of the plant. He coaxed it not to have thorns and promised that it would be protected. He did this for several days and eventually the plant stopped growing thorns and thorns that were on it dropped off. It never grew new thorns.

Current cancer therapy includes sessions where you have to use your imagination to direct your healthy body cells to attack cancer. Medical science is undergoing a revolution. Therapists do not look at the patient as the body alone, but rather as mind, emotion, body complex linked by an overall guiding Consciousness.

When we think of consciousness, we also observe that one special feature that distinguishes a human being from other animals is that he possesses the faculty of self-awareness. This is an attribute, which is peculiar to our being human. A

plant has life; an animal has also life plus consciousness. But the human beings have consciousness plus self-awareness. We are capable of being aware of our own thoughts and capable of focusing our awareness on anything that we may wish. Most of the time our awareness remains focused on all the affairs of our mind related to our individual self. The moment our awareness is brought to the element (The Source), which is present in all of us and in all the manifestations of the universe, the healing starts.

Your physical body, mind and intellect are outer layers enveloping your inner Self. You are that Supreme Self. Right now you are not aware of this simple truth. Your attention all the time is upon your body, mind and intellect and their functioning. You identify yourself totally with them. Your identification with these gross components of your personality causes all your sorrows. Shavasana helps you reach your innermost core and gain enduring peace and happiness.

“We are both actors and spectators in the great drama of existence.” Says Niels Bohr. *The soul, the I, is a two-in one’ - the actor I and the spectator I. The actor I is the I that goes through one's roles in life, the agent, sowing actions and reaping fruits. The spectator I is the pure self, pure consciousness, atman, the silent observer or the sheer witness - sakshi cheta kevalo nirgunascha.*

Normally we lump the two together, not teasing the actor and the spectator out. The

educational and career grooming we go through does not prepare us to differentiate the two *Is*. This is our spiritual illiteracy. This spiritual privation strains and spoils relationships, scuttles skills, gifts and faculties, muddles attitudes and behaviours and we end up looking for stress-busters and peace capsules.

All the weight that sits on us and is crushing us by way of stress and peacelessness is the weight of a lumped up *I*. Separate the two *Is* and the weight goes. **The essence of spiritualism is the separation of the actor *I* and the spectator *I* and the resultant freedom for the latter from emotional involvement in the roles of the former.** That is the gist of the Vedas, the Upanishads, the Gtia, the Yoga Sutras and all.

The spirit is the spectator standing by the actor and watching the latter going through his roles and functions. **Practising Shavasana is training oneself to identify oneself with the spectator and keep aloof from the actor.**

Every morning, close your eyes for just one full minute, addressing yourself. Detach yourself from the actor *I* and assume the spectator *I*. Tell the actor *I* to go through his/her roles for the day. Assign each role - father, worker - its jobs and instruct it to do things to perfection or as best as possible. Tell the roles that they would be under watch and would be pulled up for shortcomings. And at night before going to sleep, sit up addressing yourself for another full minute. Call

each role and review its performance for the day. Pull them up for shortcomings and praise them for good performance. Divide the losses and gains, failures and successes and bouquets and brickbats amongst the roles, keeping nothing for yourself, and be unburdened and free, and go to sleep with a clean and peaceful mind.

*One cannot have physical body and not have Consciousness or Source of life with its limitless energy. You allow your attention to be so held upon by the outer activities that you forget your Consciousness and its energy.*

*Practice of Shavasana helps you to quieten your outer activities and allow the energy of your Consciousness to manifest in your life.*



# Shavasana

The human body and its functions are regulated through nervous system consisting of brain, spinal cord and nerves. The nervous system has two distinct parts : one part is under voluntary control and most of the ordinary functions of the body like walking, doing work manually, etc. fall under the category of voluntary control. Vital functions of the body like respiration, circulation, digestion, etc. are involuntary.

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. In real emergency situations, stimulation of sympathetic activity is helpful to “fight”. Hence it is known as sympathetic. However, when it remains stimulated during chronic stress and in an imaginary fearful situations, it is a drain on the energy of the individual and proves harmful. Shavasana and meditation activate the parasympathetic nervous system which makes secretion of hormones like adrenaline, noradrenaline and corticosteroid normal. As a

result, the heart rate, blood pressure and blood sugar 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. It is noted that when an individual achieves this relaxation, slow rhythmic alpha activity is recorded from the frontal lobe of the brain. Various chemical changes occurring in the body promote healing by increasing the immune status of the individual. Thus all the degenerative processes of the body are retarded and regenerative processes get accelerated.

Shavasana has been practised from the ancient times in different ways. It has been considered the king of asanas. Physical and mental relaxation achieved by shavasana has no equal. During shavasana slow rhythmic alpha activity is recorded from 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 purpose of this asana, as the name suggests, is to assume a dead-body posture. There are various techniques to perform this asana. The one adopted in the program of Dr. Dean Ornish has been evolved by Swami Satchidanandaji settled in Virginia, USA. It relies on the premise that for optimum relaxation of muscles of the body, prior stretching of muscles is necessary. Experience has shown that if relaxation is preceded by stretching,

it yields optimum results. A very significant point to remember is that while stretching a particular group of muscles, it is not correct to believe, the more the stretching the better the relaxation. 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 relaxing. The simple observation that the awareness must be brought on to the part of the body being stretched is the cardinal feature of the technique, without which the benefit of shavasana is not complete.

The world abounds in material wealth. But that does not make you prosperous. Shavasana and meditation explain scientifically how you could exercise your optimum capacity for efficient and productive action. Your present actions are not tuned for maximum output. That is because of lack of mental concentration. As you are acting in the present, your mind rambles into the past and fantasises about the future. It broods over memories of what has been done earlier or over expectations of results to come. Your mind hardly remains in the present. This is the quality of human mind. Shavasana and meditation provide you with the ways and means of controlling the mind. They help you to concentrate, to channelise your mind towards the present activity. Shavasana and meditation prevent the dissipation of your mental energy in unproductive channels of the past and the future. Your activities are thereby rendered

more efficient, more fruitful, more productive. They provide a blue-print for efficiency, productivity and prosperity.

The practice of shavasana prepares the individual for meditation. Shavasana, as we know, stems from the progressive deep relaxation. It is achieved by prior stretching and relaxation of the group of muscles one by one as shown by the various stretching and relaxation exercises. Indeed, bringing of awareness to the present, that is, to the process of stretching and relaxing is of crucial importance. **As the Father of medicine Hippocrates has observed, the mind is present in all the cells of the body and so when the body is relaxed during shavasana, the mind too automatically relaxes.** This is the essence of shavasana.

Science has established that our awareness is, for most of the time, either in the past or in the future. Out of 16 hours of our waking time, it is hardly for an hour and a half or so that we live actually in the present. It is well-known that stress is minimum when awareness is in the present. In shavasana, by various stretching and relaxation exercises of the body and keeping the awareness on the process, progressive deep relaxation is achieved.

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 right and left brain will promote health. The right brain stands for intuitive instinct and the left brain for hard logic. Briefly, in relaxation mode parasympathetic tone is more than sympathetic, The right brain is more active than the left, while in the stress mode the reverse occurs.

When a complete relaxation of the muscles of the body is achieved, the individual brings his awareness to the natural process of breathing. He now becomes a witness to his own breathing process without any special effort to breathe in a particular manner. It is only the natural process of inhalation and exhalation that is witnessed. This brings about relaxation and the peace of mind. It is precisely at this stage, when the individual's awareness gets focused on the natural process of breathing, that the suggestions are given that all the muscles of the body are now relaxed, and hence the coronary arteries which are made up of muscles are also relaxed: This leads to dilatation of the arteries and increase of blood flow to the heart muscles. It improves the functioning of the heart, which in turn increases the perfusion of all the cells of the body with the result that the individual feels very energetic and well.

All the advice in management of CHD (coronary heart disease) regarding hygienic measures like regular walk, giving up tobacco, moderation in use of alcohol and reduction in dietary fat and animal protein are all physical

measures. They do not deal with the root causes of stress like sense of isolation, anger, hostility and fear of death.

The yogic disciplines, abdominal breathing, shavasana and meditation increase the inner strength of the individual and foster the feeling of connectedness bringing about reduction in stress.

Shavasana helps you develop spiritually. It also prescribes the ways and means to gain material prosperity. Puts you right on top of the world.

In essence shavasana and meditation go hand in hand. The physical aspect of shavasana is only superficially physical. It actually serves the purpose of bringing about richer and more successful meditation.

Moreover recent research has shown that shavasana and meditation increase the heart rate variability.

## Heart-Rate Variability

HRV is not cardiac arrhythmia or irregular heart beats; 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 electro-cardiogram. In a normal person the HRV is rhythmic with a value of more than 50 milliseconds on an average between beats. It can be captured only by advanced sensitive computers. Negative emotions like anger,

frustration, envy, worry, etc. cause erratic and nonharmonious 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. Erratic HRV puts extra wear and tear on blood vessels and heart. HRV has corresponding changes in cellular DNA and immune system also. Increased sympathetic activity with dampening of parasympathetic pathways diminish heart rate variability and also make it erratic and nonharmonious. A Multicentre Post Infarction Research Group Study found that low HRV, less than 50 milliseconds, has 5.3 times higher chances of sudden death in the patients recovering from heart attack. The yogic disciplines such as abdominal breathing, shavasana and meditation admirably bring about a reduction in the sympathetic activity and have beneficial effects on heart rate variability.

## **Heart Resonance Imaging**

Heart Resonance Imaging is a technique to bring beneficial effect on Heart Rate Variability. With Heart Resonance Imaging, you replace the conditioned reflex of anger with the reflex of caring-love. This cannot be done as a statement, declaration, or pep talk. It has to be developed as a biological reflex. If you diligently practise over 24 hours, you will be able to develop the new reflex.

If you stay with it everyday for a week, you will master the new reflex. You will enjoy the unconditional caring love state for the second time in your life – the first being when you were a child. **The Heart Resonance Imaging steps are simple.** During meditation :

- Focus awareness on your anatomical heart.
- Experience caring-love towards a particular person.
- Stay anchored to your heart.
- Observe your breathing in your belly as you stay anchored to your heart.
- Repeat these drills until you are able to shift your centering from your mind to heart and to belly effortlessly.

### **Benefits of HRI (Heart Resonance Imaging)**

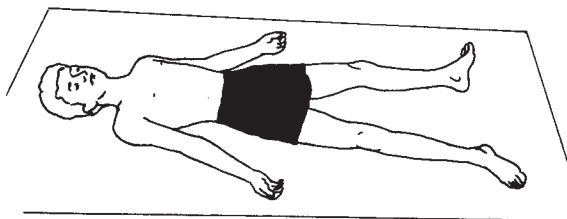
- Your heart heals as shown by increase in heart rate variability.
- Your immune system becomes stronger.
- You resolve conflicts in your mind and you feel better.
- You feel less stressed and more energized.
- You develop biologically effective altruism. This is healing by your internal pharmacy. You upgrade your emotions from apathy to empathy and from anger to caring-love. HRI may be practised whenever one interacts with another person.



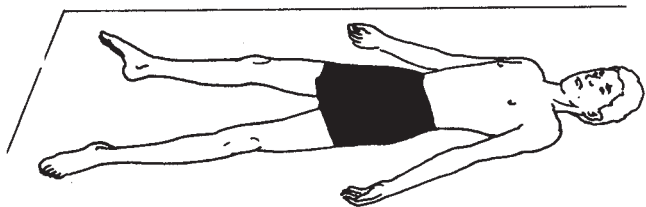
# Technique of Shavasana

Normally to practise shavasana one lies down flat on his back on a mat on a floor or on a mattress on a cot. However, shavasana can be practised even in a sitting posture. In our program, quite a few have practised it while sitting in a wheel chair. Practice of shavasana begins with bringing one's awareness onto one's body. Normally our mind is wandering. Bringing the awareness to the body and keeping it there, is the first vital step to control the wandering mind. With practice one can bring the awareness onto the body very gently and if the mind wanders, without undue force gently bring it back to the body. The benefits derived from shavasana depend upon the adherence to the simple guidelines explained here.

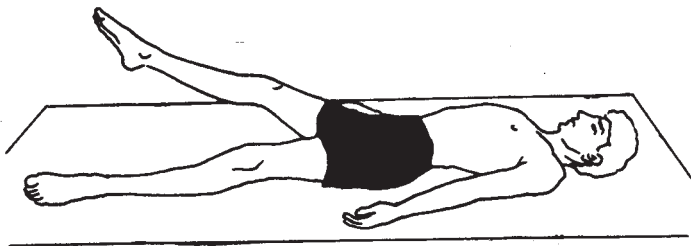
Lie on your back. Keep your feet 12" apart. Let each foot lie on its side in a comfortable position. Keep your arms 6" away from the body with your palms facing the sky and fingers half bent.



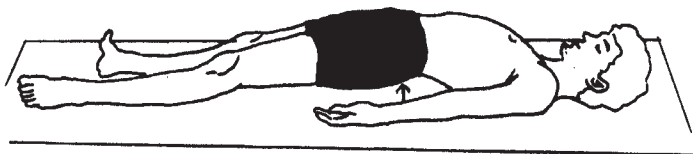
Bring your awareness to the feet and bend the toes towards the ground, feel the stretch and then relax. Now forget the toes. Do this exercise again.



Bring your awareness on your right leg. Stretch the muscles of the right leg from toes to hips, lifting the leg a little off the ground. Feel the stretching of the muscles. Then relax. The leg will automatically fall to the ground. Now forget the right leg and repeat the same with the left leg. Do this exercise again.



Bring your awareness on your back. Contract the muscles of the lower back and pelvic region (around the hip joints). Body will rise slightly off the ground. Feel the stretch, then relax. Body will come down automatically. Do this exercise again.



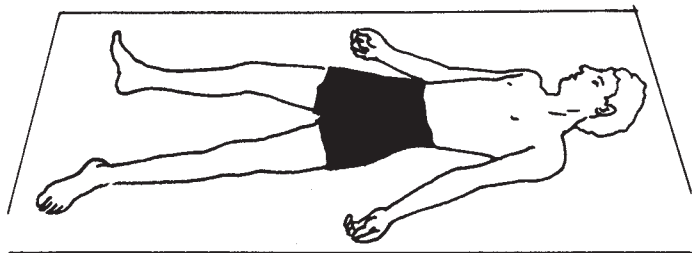
Bring your awareness on your chest. Contract the muscles of the chest while inhaling and raising the chest a little off the ground. Feel the stretch and then relax. Chest will come down automatically. Do this exercise again.



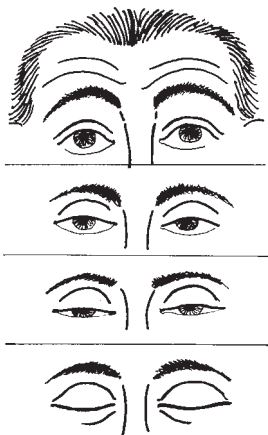
Bring your awareness on your arms. Close the fists of the arms. Contract the muscles of the whole arms up to the shoulder lifting the arms a little above the ground. Feel the stretch and then relax. The arms will come down automatically to the ground. Repeat the same exercise.



Rotate the neck from one side to another side gently as if somebody is holding the neck and moving it. Feel the stretch and then relax keeping the neck in a comfortable position. Do this exercise again.



Bring your awareness on your jaws. Open the lower jaw towards the chest and experience the stretching of the muscles of the jaws and the cheeks. Feel the stretch and then relax, bringing the jaw back to the normal position. Repeat the exercise.



Open the eyes gently and fully, stretching the muscles of the eyes, brows and the forehead. Feel the stretch. Then relax these muscles, letting the eyes close effortlessly. Do this exercise again.

Having relaxed the whole body, the practitioner remains in the relaxed position forgetting his whole body, and brings his awareness to the natural process of breathing. Resting in the comfortable position he gradually becomes one with the breath, and remains in that state for a few minutes.

While he is one with his breath, he is meditating. **So in a nut-shell, shavasana starts with meditation on the body and ends with meditation on the breath.**

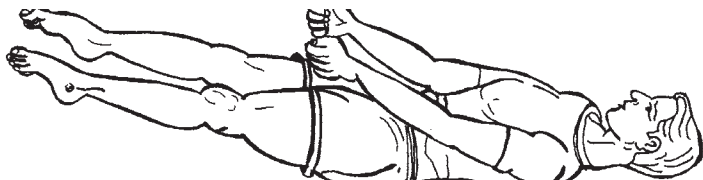
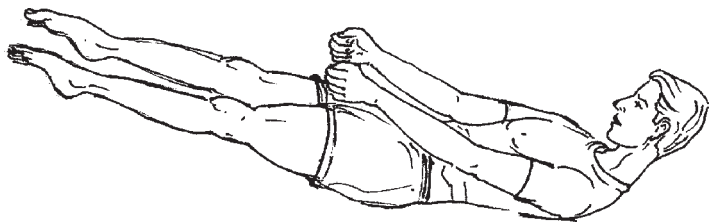
# Quick Shavasana

Swami Satchidanandaji of Virginia, USA has shown a technique to perform shavasana quickly in a short time.

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 raised a little off the ground. He experiences the 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. The whole exercise is repeated once again.

In this relaxed posture, forgetting the body, the practitioner focuses his awareness to 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 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 resting flat position.



# Report on Universal Healing Program by a visiting student from U.S.A.

Dr. Munjal Shroff studied the Universal Healing Program in great detail considering it a novel approach in the management of coronary artery disease. He attended Dr. Kapadia's Clinic and watched with great interest how Dr. Kapadia evaluates the symptoms and signs of the patients along with the reports of all investigations and decides whether surgical intervention is necessary.



*Visiting student from USA Dr. Shroff with Dr. Kapadia*



He then observed how Dr. Kapadia explains the Universal Healing Program. Dr. Shroff attended the program sessions and experienced himself light stretching and relaxation exercises, shavasan and meditation. He also took part in group discussions and the program picnic.

He visited another important centre of the program in the city of Rajkot. Virani Hospital and Satya Sai Baba Hospital of Rajkot gave him all the facilities to study the records of the participants. In all Dr. Shroff studied records of more than hundred patients before and after joining the program. He also visited L. R. Trust rehabilitation centre at Ahmedabad and took interest in the rehabilitation program followed by the participants.

Following is the report on Universal Healing Program by a medical student of South Eastern University of Florida, USA who was sent on an elective rotation to study UHP at Ahmedabad in the month of December 2000.

### **Abstract**

- The Universal Healing Program, a holistic, program designed for the treatment of Coronary Artery Disease (CAD), was founded by Ahmedabad-based cardiologist, Dr. Ramesh Kapadia, a decade ago (2nd Oct. 1991).
- Since then, thousands of cardiac patients have benefited from this unique program.

- Whether it be patients who have suffered myocardial infarctions or patients with simple angina, patients enrolled in the program have found a new sense of well-being and health.
- I visited Dr. Ramesh Kapadia for the month of December 2000. As a visiting medical student, I was able to interact with program participants, Dr. Kapadia and his volunteers.
- I catalogued the medical records of various patients and recorded the changes in cardiac parameters both before and after joining the program.
- My observations and analysis have led me to believe that the Universal Healing Program, is in fact a profound and elegant weapon in the war against coronary artery disease.
- The program incorporates a series of group light exercises, coupled with meditation and group prayer, twice weekly.
- In addition, a large percentage of patients practise the program on their own at home, daily.
- Inspired by the work of Dr. Dean Ornish of the USA, the UHP has become a staple in the treatment of CAD.
- Patients have seen their LVEF (left ventricular ejection fraction) doubled, their angina reduced, and their HDL cholesterol rise upwards.

## Introduction

- The program has been ongoing for the last decade and has found repute and approval from medical institutions around the world.
- Over the last decade, its following continues. Its impact is such that independent, volunteer-organised satellite programs operate in other Indian cities, such as the city of Rajkot, in state of Gujarat.
- The Royal College of Physicians of Edinburgh and many US medical universities, including Duke University, have commended Dr. Kapadia's program.
- Students from afar as Argentina and the US have come to study the program at various times. While the patients join the program as cardiac patients, many find broad-ranging health benefits, not limited to heart disease alone.

## The UHP Patient

- There are no strict guidelines that restrict the benefits of UHP to a limited portion of the population. In fact, UHP patients all share a diverse background and medical history.
- Patients range from stable angina patients to those who have suffered from unstable angina or myocardial infarction and have undergone angioplasty or coronary artery bypass graft surgery (CABG).

- Males and females alike are part of the program, and most patients hail from India's large middle class; most are Gujaratis, many are English-speaking.
- Many patients have joined the program at the behest of their primary-care provider or cardiologist, while others have come referred by other program participants and friends.
- Another batch of participants comprises a group of patients with severe coronary disease who have been termed by other physicians as poor candidates for surgical treatment.
- The UHP stands with open arms to a broad range of cardiac patients. It is important to realize that the program has no direct monetary cost to the patient, thereby allowing even those, who are not well-off, to enjoy the benefits of the program.
- Patients not only join the entire group of participants for the twice-weekly UHP sessions in Ahmedabad, but also do the program at home with audio and video cassettes.
- Participants also read a set of books authored by the founder of the program, Dr. Ramesh I. Kapadia, as a further reinforcement of the ideals and goals of the program.

### **The Effects of the Program**

- As I observed patients participate in the program and examined them and perused their

- medical records, 1 realized that the benefits of this seemingly simple program are far-ranging.
- An obvious and important benefit is the counsel patients receive by simply being in the company of other similar cardiac patients in a healing and social environment. Simply, speaking to other patients and seeing how active and well fellow cardiac patients are, is of clear beneficial value.
  - Such regular visits reduce feeling of isolation and the patient's fear of disease.
  - As the patient's isolation and fear-of-disease are reduced, patients are motivated to take care of themselves and follow-up with their physicians and follow recommendations.
  - Besides the marked reductions in fear-of-disease and feeling of isolation, patients also report an increase in their ability and desire to make often difficult lifestyle changes.
  - Young Indian male patients, many of whom chew and smoke tobacco regularly, express desire and ability to drop the tobacco habit.
  - This desire is put into action, as patients return to their doctors' offices with improved personal health habits. Other people who may consume a largely fat-laden, non-vegetarian diet, express wish to curb their fat intake and adopt healthier diets and lifestyles.
  - The key is that the UHP is not simply a program designed to improve cardiac function, but it is in fact, an all-encompassing program,

designed to improve the overall health of its participants.

- It increases the inner-strength of its participants to believe in their own innate ability to improve their health and well-being.
- Besides these admittedly difficult-to-quantify benefits, the UHP has a direct and positive impact on its patients' cardiac functioning and physiology.
  - Patients who suffer from cardiac angina report a reduction in their anginal pain and an increase in their functioning capacities. Patients are able to walk longer without pain and resume activities that once were prohibited by acute onset of pain.
- Even more remarkably, patients' ejection fractions increased after being regular participants in the program. Many patients saw a doubling of their LVEFs over the course of one year; thallium studies revealed improved cardiac physiological functioning as well.
- Even more promising is the fact that many participants saw an increase in their HDL cholesterol, coupled with a reduction in their LDL cholesterol. This finding is important as few well-tolerated drugs can create such profound and beneficial changes, specially regards to HDL.
- Beyond these recordable changes, is the almost bewildering sight of serious cardiac patients, free

of the fear of death and disease, which is an important emotional baggage of this disease.

- Many patients, some of whom have a positive family history of coronary heart disease, and who would otherwise fear worsening of the disease, live a quality life, free from the depression and fear that accompanies CAD.

### **Scientific Data**

- To the uninformed and skeptical outsider, the benefits of a simple program like UHP seem almost otherworldly. However, true to its undeniable solidity, the benefits of UHP can, in fact, be quantified and analyzed.
- A catalogue and analysis of the medical records of close to 100 UHP participants show substantial gains in cardiac function, improvements in dyslipidemia, and a general decrease in severity of many accepted CAD risk factors.
- Most striking and potentially most conducive to long-term health is the improvement in dyslipidemia. On average, after sustained and regular participation in the program, participants' LDL fell by 14-18%; isolated reductions approached 28-33%. Clearly such meaningful reductions in LDL are worthy of note. In addition, and perhaps even more noteworthy, is the increase in HDL seen in participants. On average, sustained

participation in the program elevated HDL by 15-20%; isolated participants enjoyed increases approaching 35%. These are dramatic improvements, and generally unachievable with current lipid-lowering medications, specially regarding HDL.

- In addition, many participants enjoy the benefits of improved coronary perfusion and increased cardiac function. Amongst participants who were enrolled in UHP for at least one year, LVEF, as measured by 2-D Echocardiography, increased, on average by 21 % some achieve LVEF increase by close to 40% isolated participants even double their LVEF. Clearly, such increases are noteworthy and the impact on quality-of-life cannot be understated.
- While these measured variables highlight the strength of UHP, other benefits evade the scrutiny of scientific measurement. The reduction in depression amongst post CABG patients, the reduction in fear-of-death, and the increased well-being achieved by participants, all reinforce the quantifiable benefits of the UHP.
- It should also be noted that these benefits were recorded in a population that is known to have an inherently higher risk of CAD. Populations in the Indian subcontinent are known to have elevated lipoprotein-a and homocysteine levels, both newly recognized risk factors in the development of CAD.



## Conclusion

- Clearly, UHP is an elegant and effective weapon in the war against CAD.
- As a medical student observing UHP for the greater part of December 2000, I came away with a new appreciation and respect for this program of all-encompassing care in disease management.

# Understanding and Preventing Heart Attack

Samir Kapadia, MD  
Interventional Cardiologist  
University of Washington, Seattle, USA

## Introduction

Despite impressive strides in diagnosis and management of heart attack (acute myocardial infarction), it continues to be a major health problem affecting affluent and developing countries. In the United States, nearly 1.0 million patients annually suffer from acute myocardial infarction. Even in the 21st century with all medical advances, acute myocardial infarction is fatal in approximately one-third of patients with half of these deaths occurring within 1 hour of the event. Unfortunately, heart attack may strike an individual during the most productive years of life leading to deleterious psychosocial and economic ramifications. Physicians and dentists, with their high stress levels and type A personality are not at insignificant risk for myocardial infarction.

## Understanding heart attack

Typical manifestations of acute myocardial infarction (MI) include sudden onset of chest pain, sweating, nausea; or abrupt onset of arrhythmia with loss of consciousness; or acute cardiac decompensation of cardiac pump with shortness of breath. All these symptoms result from acute disruption of blood flow to the myocardium. In 1980s DeWood et al showed that MI results from thrombotic occlusion of one of the three major epicardial coronary arteries. Left anterior descending (LAD) artery occlusion leads to anterior wall MI, right coronary artery (RCA) to inferior wall MI and left circumflex artery (LCx) to lateral wall MI. In recent years we have advanced our understanding to partially explain sudden clot formation in the coronary arteries. The clot forms by complex interactions between contents of atherosclerotic plaque, blood cells (platelets and white blood cells) and clotting factors.

Coronary atherosclerosis begins at a very young age – affecting one-fifth of the teenagers and almost one-third of individuals at the age of 30. Atherosclerosis is a response of the endothelium of the coronary arteries to injury. Smoking, high cholesterol, hypertension, high glucose (diabetes mellitus), stress (catecholamines) are some of the well-characterized insults to the endothelium. Other putative insults include infections (Chlamydia, H. Pylori, CMV etc), hyperhomocystinemia, certain

subgroups of lipids (dense small LDL, Lipoprotein-a) and turbulent flow at the bifurcation sites of coronary arteries. All these insults lead to inflammation in the arterial wall leading to elevated markers of inflammation like high CRP (C- Reactive Protein), interleukin-6 or even high WBC count.

With initial insult, there is accumulation of macrophages and lipids in the arterial wall. The plaque then grows with each subsequent insult in a stepwise manner and not as a slow steady process. Each step of progression represents new injury with plaque rupture and atherosclerosis lesion progression.

With plaque rupture there is activation of platelets and cascade of clotting factors. Many times this process is silent because the clot is non-occlusive and does not disrupt myocardial blood flow. However, with each rupture or erosion, the plaque becomes larger. When plaque becomes large enough, it encroaches upon the lumen of the coronary arteries leading to coronary stenosis. When coronary stenosis becomes >50-70% there is impairment of coronary blood flow with exercise and when it is >90% there is decreased blood flow at rest leading to chest pain. When the ruptured plaque generates a clot large enough to disrupt coronary flow, chest pain with acute coronary syndrome results.

Acute myocardial infarction with ST elevation on ECG results from total occlusion of coronary arteries. The non-ST elevation MI frequently results

from severe (>90%) but incomplete occlusion of a coronary artery. Thus the main inciting event is the plaque rupture. Even with our advances in imaging techniques, it is currently not possible to identify a “vulnerable plaque” which is more likely to rupture. Intravascular ultrasound, temperature of plaque, MRI, and systemic markers of inflammation are being investigated to identify “vulnerable” plaques.

The exact mechanism of plaque rupture remains unknown. Active inflammation is the precursor of plaque rupture. What causes the inflammation or perpetuates it also remains unknown. Stress and high catecholamine states, infection, rheological factors and lipid milieu have been proposed as potential culprits. Further, propensity to form a sizeable clot with platelet activation is an essential piece in the genesis of a clinically significant event. With this understanding of plaque dynamics, the potential preventive measures are easy to comprehend.

### **Understanding prevention of heart attack**

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 for 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. The role of aggressive control of high blood pressure and diabetes cannot be underestimated in prevention.

Aspirin has shown to be very effective in secondary prevention but for primary prevention aspirin cannot be strongly recommended in all individuals. It can be recommended for individuals with moderate risk of cardiovascular events including those with significant family history, diabetes and hyperlipidemia. Vitamin E may not be particularly effective in prevention of cardiovascular events. Routine use of vitamin B6 or folic acid also has not been recommended. Supplementation of trace elements like selenium has 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 attack. Various methods for stress reduction and life style modification have been studied including meditation, yoga, biofeedback and exercise with evidence of clinical benefit in some series. Stress reduction may change platelet aggregation and protect against risk of thrombosis. Hostility and anger has been associated with coronary disease. Specific diets have been used to retard atherosclerosis. Vegetarian diet with low fat intake, diet with high content of fruits and vegetables, diet

rich in Omega-3 fatty acid are few such examples.

In summary, coronary artery disease is a serious disease process that starts early in life and can be effectively controlled and prevented by healthy lifestyle with proper medical attention to conventional risk factors.

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# Epilogue

All the research on patients of coronary heart disease shows that prevention of heart attack and probably an increase in the life span, can be achieved through measures which diminish sympathetic activity and keep the clotting tendency of the blood at low level. The other landmark finding is that HRV is affected favourably by measures which reduce sympathetic activity. These findings have brought indepth stress management in sharp focus.

It is our experience of last 10 years while conducting Universal Healing Program that almost all the patients who regularly practise abdominal breathing, shavasana and meditation are benefited. The evidence of benefit is so strong that we recommend it as a regular prescription. The point worth emphasising is that the yogic disciplines have an effect like beta-blocker drugs. If the patient fails to do the exercise regularly for more than a month, the beneficial effect tends to wear off just as it would if the patient discontinues beta-blocker. There is generally an excuse put forward by the participants in the program that for a particular period of time they were occupied with very important engagements and so they did not find

time to do yogic exercises regularly. This is a lapse which occurs because of lack of proper understanding of the importance of yogic disciplines. In reality, when a person is hardpressed for time he needs to do yogic exercises all the more. The time spent on exercises is very well compensated by the benefit that accrues, which increases the inner strength of the individual to face the challenging circumstances. This is borne out by several feedbacks of the participants of our program.

Normally, the whole program of light stretching and relaxation exercises, followed by shavasana and Meditation lasts for about 40 minutes. However, with experience, one can condense the whole program into 10 to 15 minutes only and yet have adequate benefit.

Today, we are always short of time. We talk of sparing some time for important activities. As shavasana and meditation are valuable activities, proven by science, the complaint of lack of time for practising them is irrelevant. Shavasana and meditation help find the solution to every problem because it helps us to develop a higher state of consciousness.

Abdominal breathing is also an important Yogic discipline. Its importance lies in the fact that it can be practised at any time regardless of posture and whatever activities the person may be doing. For doing shavasana and meditation one has to cease the activities for a few minutes. But in

abdominal breathing with practice it can be done any time alongwith the other activities.

Abdominal breathing activates the vagus nerve, that is parasympathetic system and brings about the quieting of the mind. Abdominal 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 conserving sympathetic system to the tropotropic energy consuming parasympathetic system. In management of acute stress, abdominal breathing gives relief as quick as sorbitrate in angina.

In this holistic approach, the brain is only an instrument for the mental consciousness to be able to control the physical body.

The science of consciousness is yoga. For last 10 years while practising the UHP for CHD we have fortunately discovered the science of Consciousness. Simple practice of shavasana and meditation as taught in the program has shown a great potential for development of Consciousness not only to heal the coronary arteries or other ailments but also to lead a life full of health and bliss.

We are going to witness a very interesting period of human progress. This century would be the century of Consciousness, where the science of Consciousness would be developed to its full potential.