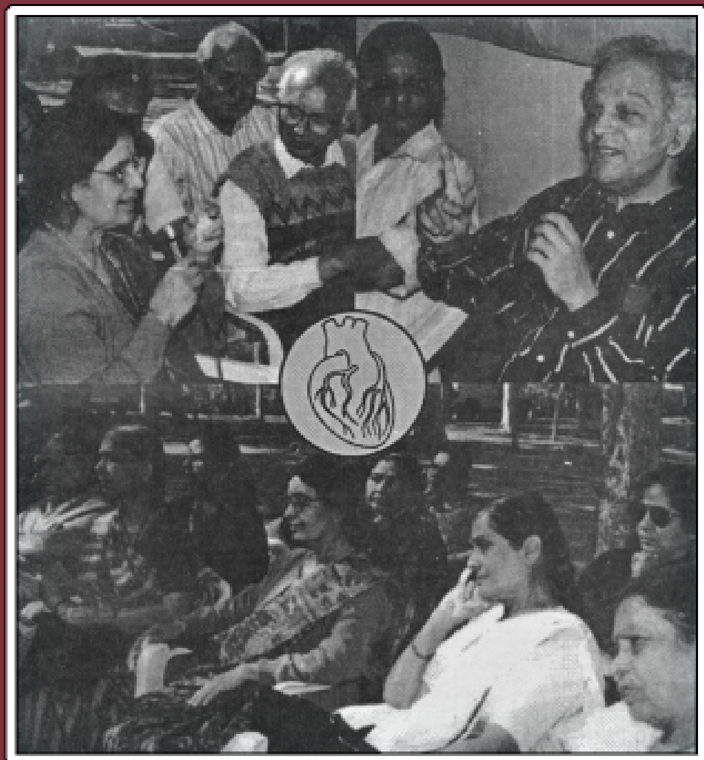
Heart To Heart

Dr. Ramesh I. Kapadia



Heart To Heart

(Dialogue on Heart Disease

Dr. Ramesh I. Kapadia

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Q.1 Dr. Kapadia, you've had the highest education in the field of cardiology in England and America. After such a distinguished career and experience, what really led you to Yoga?

Dr. Medical science has made great progress in the treatment of coronary heart disease. Angioplasty and bypass surgery are widely used in its management. But neither of them promises a cure. They are palliative measures. Bypass surgery bypasses the problem, as the trouble often recurs.

Over years, I've been looking for an answer. Meanwhile, I came to know of Dr. Dean Ornish's success in the treatment of coronary heart disease through Yoga. In June '91, I got an opportunity to observe his program. It was really amazing to see how in a city like San Fransisco, steeped in materialism and luxury, Dr. Ornish's patients experienced such great relief through Yoga.

Q.2 Could you please tell us about this program at San Fransisco?

Dr. **Dr.** Dean Ornish's program consists of almost fatfree strict vegetarian diet, modest exercise, progressive deep relaxation (Shavasana), meditation, group discussion and the sharing of feeling. 40

patients with severe coronary heart disease showed remarkable improvement during 4 years. This was verified by pocitron emission tomography - PET Scan. This is a technique for assessing coronary blood flow to the heart muscle without coronary angiography.

Q.3 Is this Yoga western, or different from what we have here?

Dr. Yoga has its roots in Indian culture. You will be glad to know that Dr. Ornish's program was inspired and evolved by Swami Satchidanandaji settled in Virginia who is a disciple of Swami Shivanand.

Q.4 What is the place of your program now in the management of coronary heart disease?

Dr. The program that we are practising since 1991 is now an established therapy for the prevention and the modern management of coronary heart disease. This type of program is now a part of the medical curriculum in several universities in U.S.A. and Europe. The program makes the conventional medical as well as surgical treatment more effective and affordable.

Q.5 What according to you are the key issues in the rising incidence of coronary heart disease?

Dr. The key issue in the rising incidence of coronary heart disease appears to be imbalance in autonomic nervous system, the sympathetic tone being much higher than the parasympathetic tone. This imbalance occurs due to job stress, family stress, financial stress, lack of social support and the loss of control of situation, resulting in isolation. Smoking, alcoholism and obesity are offshoots of the sense of isolation. Cynicism, hostility and self-centredness are also due to isolation.

Increase in sympathetic tone can be assessed at the bedside by studying heart rate variability (HRV) and baroreflex sensitivity (BRS). Both are diminished when sympathetic activity is increased. HRV is the cyclic fluctuation of heart rate in milliseconds, not appreciable by clinical examination of pulse and routine 12 lead electrocardiogram. Baro-reflex sensitivity is the reflex reduction in heart rate in response to rise in systolic pressure. When HRV and BRS are diminished, chances of sudden death in the patient of coronary heart disease increase five times. The increased sympathetic tone and diminished HRV and BRS make heart prone to ventricular tachycardia and ventricular fibrilation, at times resulting in sudden death.

The increase in insulin resistance, vascular spasm, increase in platelet stickiness, atherosclerosis and plaque rupture resulting in unstable angina -- are all the result of increased sympathetic tone in stressful situation. Furthermore autonomic imbalance affects the ejection fraction (power of contraction) of the left ventricle.

Abdominal breathing, progressive deep relaxation (Shavasan) and meditation as taught in our program have been very helpful in reducing the sympathetic tone in all our participants, bringing about all the beneficial effects in coronary heart disease. The incidence of sudden death among more than eight thousand patients over a period of eight years has been quite negligible. The episodes of unstable angina in all our patients of chronic stable ischoemic heart disease have also been remarkably low. Quite a few of our participants have been able to do well without recourse to angioplasty or bypass surgery. Almost all of them are free from the fear of death.

The beneficial effects of these relaxation techniques on HRV & BRS have been shown in biofeedback laboratories of Europe and U.S.A. Our vast experience of over eight years with this program completely corroborates the beneficial research findings of Dr. Dean Ornish's program for the patients of coronary heart disease.

Q.6 What is the cause of rising incidence of coronary heart disease in developing countries?

Dr. The rising incidence of coronary heart disease specially in the developing courntries is due to the sense of isolation amongst the young. Our book *"Heart Disease – A New Direction"* explains isolation at length. When a person experiences isolation he may take to tobacco or alcohol and those who would rather not take tobacco or alcohol may try to fill the void by overeating. which results in obesity. The simple stretching and relaxation exercises followed by Shavasan and meditation heals isolation.

Q.7 What is the cause of increased incidence of coronary heart disease among Asians ?

Dr. It has been noted that stress and increased sympathetic activity lead to insulin resistance which in turn increase atherosclerosis in blood vessels. The increase in atherosclerosis is due to a high level of triglycerides, a low level of HDL and increase in LDL – a lipid pattern found in the majority of Asians. Triglycerides are derived from increased ingestion of simple carbohydrates like sugar, jaggery, honey, fruit-juice, polished basamati rice, various rice preparations, very fine flour of wheat, sago etc. Carbohydrates with increased fibre content are known as complex carbohydrates.

What genetic factors are responsible for such a lipid profile are again a subject of research. Genetics in cardiology is now an important branch of cardiology.

Q.8 Will you please explain the method of Yoga?

Dr. The purpose of Yoga is to bring about the relaxation of the body and the mind. It is easier to relax the body than the mind. Moderate stretching exercises followed by relaxation make the relaxation process easier. Once the body relaxes, the mind automatically begins to relax. The Mind is present in every cell of the body. Hippocrates, the father of medicine, said that there is a measure of conscious thought throughout the body. Progressive deep relaxation, i.e., Shavasana achieved in this manner brings about a relaxed state of the mind and the body, which prepares the individual for meditation.

Q.9 Doctor, you seem to be turning towards religion.

Dr. Certainly not. Meditation is not a religious ritual. It simply means bringing your awareness in the present by focusing on the process of breathing or some sound, like Om.

Tension intensifies sympathetic activity which

increases heart rate, raises blood pressure, narrows coronary arteries, causes clumping of platelets, often resulting in serious cardiac problems. Meditation retards the sympathetic activity, bringing about the dilatation of the narrowed arteries and thinning of blood.

Meditation slows down the rate of “Entropy” -- in other words, wear and tear are reduced resulting in longevity.

Q.10 How do you meditate?

Dr. The technique is simple. Sit down in a relaxed manner. Close your eyes and simply watch the inhaling and exhaling of your breath. Thoughts may come and go. But remain unconcerned. Breath is life. When you are breathing, it is not only air that you breathe in; you breathe in light and lifeforce also. Thus your consciousness becomes one with your breath and your lifeforce and healing follows.

Out of 16 hours of our waking time, hardly for an hour and a half we live in the present. Most of the time, our awareness is in the past or the future. Meditation helps us to stay in the present moment. Dr. Dean Ornish says that meditation enabled his patients to change their life-style, that is, it made it easy for them to become strict vegetarians and teetotallers.

Q.11 You say that one experiences the union of mind, body and consciousness while performing your program. Please explain.

Dr. Normally when we are engaged in any activity our mind may not be fully with the activity but be wandering into the past or the future. In this program, while raising your arms you bring your attention to the muscles which are being stretched and relaxed and then experience the relaxation of muscles with total awareness. In so doing, your body and mind at once become one and 'Yoga' starts. While the muscles relax the muscle to mind traffic becomes less. During mental stress, there is imperceptible stretching of the various muscles of the body which increases muscle to mind traffic manifold. For some reason, if you cannot perform any of the light exercises completely, you may not take special strain to do so. This will not reduce in any way the benefit derived from the program as the importance of the program lies in relaxation rather than in exercise. During Shavasan after stretching and relaxing the whole body from toe to head, when we become one with our breath, we experience the union of mind, body and consciousness. During meditation after doing abdominal breathing, when we become one with our natural breathing going in and out through the nostrils and while experiencing that

oneness, chanting 'Omkar' for five times and finally becoming one with the sound of 'Om', a wonderful experience of peace take place. This is purely a matter of individual experience. During the moment of peace one experiences the eternal NOW, that is a sense of permanence. That could be the cause of freedom from the fear of death in heart disease.

Q.12 This is all very remarkable. But how do the patients of heart disease lose the fear of death?

Dr. When Swami Satchidanandaji of Virginia, U.S.A., the architect of this program, was asked how the participants lose the fear of death, he explained that probably the regular practice of Shavasan helps them to overcome fear of death. During practice of Shavasan, the participant loses the consciousness of his body and becomes one with his breath and after remaining in that blissful state for few minutes, wakes up again to body consciousness.

Q.13 Please recount the changes that occur in cardiovascular system when sympathetic tone is increased.

The undesirable changes which take place when there is increased sympathetic tone leading to autonomic imbalance are:

(1) Diminution in HRV and BRS. (2) Increase in platelets' stickiness. (3) Vascular Spasm, (4) Increase in insulin resistance, (5) Lowering of HDL, increase in LDL and increased formation of free radicals leading to enhanced oxidation of LDL resulting in increase in atherosclerosis, and increased proneness to destabilisation and rupture of plaque, (6) Reduction in ejection fraction of the left ventricle.

Q.14 Please explain relation of stress to heart disease ?

Dr. Over 60 years ago, H. Selye recognised the paradox that the physiologic systems activated by stress not only can not protect and restore but also damage the body. The long-term effect of the physiologic response to stress is known as allostatic load. Allostasis is the ability to achieve stability through change and is critical to survival. Through allostasis, the autonomic nervous system, the hypothalamic-pituitary-adrenal (HPA) axis and the cardiovascular, metabolic and immune systems protect the body by responding to internal and external stress. The best studied sysytem of allostasis and allostatic load is the cardiovascular system and its links to obesity and hypertension. In humans the lack of control on the job increases the risk of coronary heart disease, and the job strain (high

psychological demands and lack of control) results in elevated ambulatory blood pressure even at home as well as the increased progression of atherosclerosis. Chronic stress (feelings of fatigue, lack of energy, irritability, and demoralization) and hostility are linked to increased reactivity of the fibrinogen system and of platelets, both of which increase the risk of myocardial infarction (Heart attack).

Q.15 Is your program an alternative therapy?

Dr. No. It does not replace the traditional conventional therapy. Now it has established itself as an essential component of the total management of coronary heart disease. In the words of an interventional cardiologist this program is a contemporary approach in total management of coronary heart disease, which makes the conventional treatment more successful and cost effective.

Q.16 How does the management of coronary heart disease differ when your program is added to its conventional management?

Dr. Clinical assessment of coronary heart disease patient involves the following physical parameters.

(1) Frequency and severity of angina

(2) Improvement in effort tolerance.

(3) Improvement in TMT performance.

(4) Increase in Ejection fraction of Left Ventricle

(5) Improvement in lipid pattern specially increase in HDL and lowering of LDL.

(6) Control of hypertension.

(7) Control of diabetes mellitus.

The assessment of patient's inner strength is reflected in :

(1) Ability to make life style changes.

(2) Freedom from the fear of disease and the fear of sudden death.

(3) Reduction in anger and hostility.

(4) Increased ability to cope with stressful situations.

Conventional management, i.e. medication, life style changes and surgical intervention primarily deals with physical parameters. They improve the physical parameters but are unable to affect the parameters of inner strength in a positive manner. Inadvertently they may at times prove even negative in their effects on the inner strength.

Conventional management + ISMIS, i.e. in-depth stress management to increase the inner strength (our program) deals with the patient as a whole – mind, body and spirit. Such a holistic approach tends to make the treatment of coronary heart disease complete, effective, enduring and economical.

Q.17 You have been conducting this program for coronary heart disease patients for the last eight years or so. Have you, Dr. Kapadia, at any time done a randomized trial to prove its efficacy?

Dr. It is a fair question. Dr. Dean Ornish who has inspired the Universal Healing Program has done a randomized trial on about fifty coronary heart disease patients. They were divided into two groups: One group was given the conventional treatment with routine advice for life-style changes and the other group, over and above the conventional treatment and life-style changes, followed the five point program of light exercise, low-fat vegetarian diet, progressive deep relaxation, meditation and group support. At the end of eight weeks of study, there was a noticeably greater improvement in various parameters in the group which followed the program.

From April, 1995 to March, 1996, we studied in depth 113 of our participants. Almost all showed appreciable improvement in their clinical condition. Their angina considerably diminished, their treadmill test improved, ejection fraction of their left ventricle increased, level of anxiety about the disease and the fear of sudden death were reduced and they were able to make the necessary life-style changes without sense of deprivation.

Of course, this was not a randomized trial. However, our study was accepted by the Royal College of Physicians, Edinburgh and was published in October, 1997 issue of their journal "Proceedings" under the title, "Conservative Treatment of Coronary Heart Disease".

Most of the benefits of the program are due to changes in the consciousness of the participants. The feeling of connectedness, loss of sense of alienation, freedom from the fear of death, increase in inner strength to face the day-to-day stresses and acceptance of life-style changes with a sense of empowerment, are all changes in the consciousness. Consciousness has not received its due importance in the conventional management, until now. In Universal Healing Program the patient becomes an active element in his own treatment.

Statistically speaking, observations made in large number of distinct participants (about 8000) allow one to approach the truth.

Q.18 How can an obese person reduce weight?

Dr. It is important to remember that fasting, rigid dieting, health clubs, pills to reduce appetite or any other crash program for weight reduction do not help in weight reduction in the long run. We have observed that when a person becomes hungry he

tends to eat without discretion whatever food is served. Frequent small meals rich in complex carbohydrates is a fairly proven way to achieve consistent and enduring weight reduction. Diet rich in complex carbohydrates also increases the basal metabolic rate (BMR) which helps weight reduction. Practice of meditation trains the mind to remain in present moment and helps to eat with discretion. Complex calorie charts are also not required. Diet rich in fat is to be consumed in moderation. Simple carbohydrates like sugar, jaggery, honey, polished basmati rice and rice preparations, sago, fine wheat flour are also converted into fat. Hence, their consumption should also be kept minimum.

Q.19. How much dietary fat would you recommend for heart health ?

Dr. Animal fats are saturated and vegetable fats are relatively unsaturated. All vegetable fats provided you consume them in moderation and avoid frying are not harmful. In patients of coronary heart disease for regression and for slowing down the progression of atherosclerosis fat content of diet should be reduced below 10% of total intake of calories each day.

Q. 20 What cholesterol level is considered safe ?

Dr. If your cholesterol level is below 200 m.g. %, you need not be concerned. If it is between 200 and 240 your physican will evaluate your health and life style. If your weight and blood pressure are normal, you do not have diabetes, you do not smoke, you exercise regularly, and there is no history of heart disease in persons younger than 55 in your family, only dietary changes are recommended.

Cholesterol is carried in the blood stream as lipoproteins. Liproproteins are made up of fats, cholesterol and proteins.

If detailed analysis of cholesterol reveal high level of LDL (harmful cholesterol) and low level of HDL (good cholesterol) and there is a strong family history, only dietary measures may not suffice and lipid lowering medications may be required.

Q.21 In the management of coronary heart disease which patient would require angiography and subsequent intervention is frequently a controversial issue. The recommending doctor puts forth the benefits, like improvement in quality of life and prevention of heart attack and even sudden death. Considering the complexity of the problem and the expenses involved what would be your general guide lines?

Dr. Angiography and when necessary angioplasty and bypass surgery are important tools in the management of coronary heart disease. And in many patients they have proved very useful. However, these tools are not only expensive but also merely palliative. No therapy can claim to be ultimate when the definite cause of coronary heart disease is not yet known. Hence the management of coronary heart disease becomes complex. This program helps to ease the problem by making the management of coronary heart disease more effective and less expensive. According to one major study of coronary artery surgery called the (CASS) coronary artery surgical study in the USA, angiography is indicated only when intensive medical treatment along with stress management fails to give symptomatic relief. When angiography is advised only for diagnosis, it may lead to confusion and uncertainty in the minds of the doctor as well as the patient regarding the nature of the treatment. All the same, no hard and fast rules can be laid down. Every case has to be examined on its own merit from all angles. Sometimes, angiography may be employed to allay the patient's fear of having severe coronary heart disease. Of late, the insurance companies in the USA tend to recommend their clients who have been advised angiography to go in for the second opinion

by the panel of specialists approved by the American Heart Association. Stress Dobutamine Echo-cardiogram and Thallium Scan are also at times advised to assess the need for angiography and also to determine how much benefit would a patient derive from revascularisation procedure.

In a large majority of the patients with chronic angina and normal ejection fraction of the left ventricle, conservative medical management is all that is required. Angiography or bypass surgery may prove a boon to the patient of incapacitating angina and reduced left ventricular ejection fraction. Even in case of such patients, if for some reason they cannot undertake the expensive treatment, intensive medical treatment including lipid lowering medications aiming to lowering LDL cholesterol to less than 100 mg. per cent and in-depth stress management may help.

Q.22 It is said that when a patient of coronary heart disease consults you, you advise him to join your program overriding all other options. Is it true ?

Dr. I am not surprised at this statement. It may be rather natural for some to believe that way, as the program has become very popular and successful with a large number of participants over a period of

eight years now. However, my faith in the conventional treatment including surgical intervention when required, has not faded a bit. My brother had bypass surgery done at Houston, U.S.A. in 1988 at my behest. He underwent angiography on three different occasions since then and had angioplasty done in July, 1999. My wife also has undergone angiography. Hope this is convincing enough that we advise intervention without reservations whenever necessary.

When a heart patient seeks my advice, I explain all the options to him and recommend that he should choose his option in consultation with his own doctor. This program is an essential part of the total management of heart disease and must be evaluated as such. Recently in June, 1999, a busy interventional cardiologist in Midland, Texas, USA, invited me to speak to his group about this program. At the end of my talk during thanksgiving, he described the program as a contemporary approach that makes the hitherto conventional approach more successful and cost-effective.

Q.23 Is it necessary for the patient to travel from a distant place to Ahmedabad for learning your program and benefit from it ?

Dr. It is not compulsory for the patient to come in person to Ahmedabad. Our books, video and audio cassettes have helped the patients all over the country, Pakistan, Bangaladesh and even in UK & USA to get aquainted with the program and be able to practise on their own with or without our audio cassette.

Q.24 What are the formalities and expenses involved to get the benefit of your program? Does the patient require to get admitted under your care?

Dr. Now that we have our books, audio and vedio cassettes available in Gujarati as well as in English, it is not even compulsory for the patient to come to Ahmedabad. Those who choose to come to Ahmedabad to take part in the program which is conducted on Tuesday and Friday twice a week in the evening from 5.30 p.m. to 7.00 p.m. at a centrally located school campus, have to pay only ten rupees per session. Normally attendance to one or two sessions is enough to get acquainted with the program. Then a patient can easily practise the program on his own with the help of the audio cassette. The cost of audio cassette in English or Gujarati is Rs. 50/-. The cost of the video cassette in English which describes the actual demonstration of

the program and has special lectures on biofeedback, meditation and visualisation is Rs. 300/-. The set of five Gujarati books costs Rs. 130/- and set of five books in English costs Rs. 155/-. A book in Hindi comprising of our first three books costs Rs. 60/-.

Normally a consultation is required with program director (with me) to review the case reports of the participants. After reviewing the case, I give guidance regarding the medical management and discuss with the patient and his well wishers the pros and cons of conservative treatment versus intervention. I explain all the options in detail and then recommend the patient to choose his option in consultation with his doctor. My consultation fee is very modest and if the patient chooses to consult me at another charitable clinic he gets the benefit of our consultation for a negligible fee of Rs. 30/- presently charged by the trust. In sum, patient who travels to Ahmedabad and chooses to attend one session of the program and have private consultation and purchase the cassettes and the set of books would pay less than Rs. 800/-.

Q.25 Who can start this program in other centres and how ?

Dr. This program can be conducted in a group even without the help of a Yoga teacher. A

participant, who has mastered the program can demonstrate the whole program with the help of the audio cassette to the group and then the group can continue to practise with the help of the cassette. The following code of conduct may be studied by the participants before starting the program.

Code of Conduct for the Universal Healing Programme

1. The participant should continue to follow his doctor's treatment and advice even for surgical intervention when necessary. This program may be viewed essentially as a supportive therapy.

2. The program does not contradict or disrespect any other approach to healing.

3. Whatever benefit the participant derives from this program is due to the awakening of his inner healing power. Its entire credit goes to his effort.

4. One can awaken one's inner healing power through any other such program also.

5. There is nothing compulsive about any aspect of the program. One may not do any of the exercises that may not suit him. Even partial performance will yield good results. Importance of the program lies not so much in physical exercise as in relaxation.

6. The participant is advised to avoid any criticism of his doctor or treatment. The program is not limited to the sick alone. The healthy will also

benefit. It has a potential to enable participant to realize his real identity.

After long and meticulously thoughtout experimentation, this program has been designed to maximise the benefits of the conventional treatment of the coronary heart disease. The light exercises, Shavasan and meditation are extremely simple and can be easily practised by any age-group of men and women in their usual dress. When one is benefited by such simple exercises some are tempted to add to or modify the program. This may be avoided specially because our experience with more than 8000 patients over a period of eight years tells us that if the program becomes a little drawn out or somewhat intricate, in the long run majority of the people are likely to shy away even from the basics. This may not be interpreted as a claim that this is the only program to help the coronary heart disease patients.

Initially for practice the program can be done with the help of an audio cassette. After practice, it can be done without the audio cassette. Shavasan and meditation are the main components of the program. Light exercises prepare the ground for successful Shavsan and Shavasan prepares one for meditation. When we are too much pressed for time, the time spent for the program is rewarded by the increased

efficiency in dealing with the stressful situations. Normally, if you are doing the program once in the morning, during the stressful situation it may be repeated before dinner. After considerable practice, the time for light exercises can be shortened and Shavasan and meditation can be practised twice a day. As explained in our book — *Spinning One's Own Health,* one-minute meditation can be done every 90 minutes of the daily activities.

Q.26 Will you please tell us something more about Yoga and education?

Dr. Oh! This is a very important question. I feel that Yoga in the educational curriculum will complete our education. At the moment, our education is lopsided, largely science oriented. There is nothing wrong with science. We have to know science. But the true identity of ourselves, that is the real knowledge of 'Self' is not attained by the pursuit of science. Therefore, in the Vedas the knowledge of science is called *avidya.* Let me explain : *Avidya* does not mean anti-*vidya.* It is other than *vidya. Vidya* means the knowledge of 'Self', the knowledge of ultimate reality. Yoga is a synthesis of science and *vidya,* or *avidya* and *vidya.* In the Vedas, the Rishi says that if you follow *avidya,* that is science without *vidya,* you are led into a blind alley.

The Rishi does not stop here. He adds, if you follow *vidya* that is knowledge of self without *avidya* then it is worse. It is complete chaos *"Ghor Andhkar"*. In this program the way in which the person learns to relax his body and mind, his awareness turns towards the real knowledge-*vidya.* This leads to the healing of the individual as a whole. This is the *summum bonum* of the whole concept of Yoga.

Q.27. Dr. Kapadia, would you please sum up this important topic of heart and Yoga?

Dr. This program is not a panacea or all cure. It does not claim to replace the traditional medical or surgical approach. However, I have no doubt in my mind that it has opened up new, very hopeful frontiers in the management of all stress related diseases like coronary heart disease, high blood pressure, peptic ulcer, arthritis, ulcerative colitis, various skin diseases and many more. This program has a solid scientific basis. It deserves a routine prescription for the treatment of stress related diseases. Moreover, it has a capacity to heal the society as a whole, hence we have named it the Universal Healing Program.

Q.28 Doctor, you have an holistic approach to illness. What would you say in general regarding coronary heart disease?

Dr. No definite single cause of coronary heart disease has yet been detected. Hence, no therapy can claim to be the final answer. It is natural that even the experts differ in their approach.

In this context, the three cardinal conditions of Tibetan medicine for successful treatment of disease as stated by Dalai Lama to Dr. Benson Jones, a Harvard cardiologist, are pertinent.

(a) The doctor's faith in himself that he will be able to cure the patient. This condition is crucial, specially in coronary heart disease where there is fear of sudden death. It is not surprising that doctors may find it difficult to fulfil this condition.

(b) The patient's faith in his doctor that the doctor will be able to cure him. Again, when there is so much uncertainty regarding the course of coronary heart disease, some coronary heart disease patients may find it difficult to fulfil this condition.

(c) The doctor's *'Karma'*, his skill and its application with love.

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"It should be the function of medicine to have people die young as late as possible."

- Ernest L. Wynder

Understand Your Angina

If you have angina, it's important to remember that you are not alone. Angina affects over four million Americans and now millions in India.

Realizing that you can live with your condition is equally important. Thanks to recent medical advances, angina can now be controlled more easily and effectively than ever before. Today, the great majority of angina patients lead full satisfying lives. Coming to terms with your angina may seem hard at first. But like most patients, you will find that once you have made a few adjustments, you can still lead an active and enjoyable life. And the better you understand your angina the fuller and more enjoyable you will find life can be.

What is angina?

Angina pectoris is a temporary pain or tightness in the chest that can extend to other parts of the body, such as the arms, neck, jaw, or back. It usually occurs in response to physical exertion or emotional stress. An episode usually does not last for more than a few minutes.

Angina is caused by a temporary increase in the demand for (or decrease in supply of) oxygen-rich blood within your heart. When the demand for oxygen exceeds the supply, anginal pain results.

When coronary arteries (the blood vessels that feed the heart) become diseased, the stage is set for angina. As we get older, our blood vessels slowly thicken and lose some elasticity. They may also become narrowed or clogged with deposits, a condition called arteriosclerosis. When these processes continue long enough, angina can develop.

Classic or "effort" angina usually occurs during exertion (e.g. work, exercise), or at other times when the heart is working harder than usual (e.g. in cold weather, when it pumps harder and faster to keep your body warm).

Other types of angina can occur during rest; vasospastic angina is thought to be caused by sudden arterial spasms. A third type of angina, "mixed" angina, has some characteristics of both the effort and spastic types.

An anginal episode is not a heart attack

In angina, the amount of oxygen reaching your heart is temporarily reduced. The episode passes away within a few minutes and usually no permanent damage occurs. In a heart attack, however, part of the

heart muscle receives little or no oxygen for a longer time and damage to the heart is likely to occur.

Angina is a sign that your heart cannot always meet the demands placed on it. But having angina does not necessarily mean that you are going to have a heart attack – many patients never do.

Unstable Angina

You will feel less anxious if you know the difference between your usual anginal symptoms and the signs when you should consult your doctor.

Here is the rule of thumb. Call your doctor immediately if you notice any change in your symptom pattern; an increase in the frequency and/or severity of your attack, episodes that last longer than in the past, and angina that occurs at rest, when it never has before. This is called unstable angina.

Management of Angina

Adjusting your life-style : When angina is diagnosed your doctor advises you to start making certain changes in the way you live.

Smoking : Smoking makes your heart work harder and has other effects that may increase your risk of more serious heart problems.

Diet and exercise : If you are overweight, losing weight is a good idea. You may have also discussed

other changes in diet to lower your cholesterol levels.

Moderate exercise like walking on level for 30 to 40 minutes may provide a number of important benefits, both for your heart and for your overall health.

Sexual relations : Sexual relations are often a concern for people who have angina. For example, some patients worry unnecessary that having sexual relations could cause a heart attack.

In fact, most people with angina can and should continue to enjoy sexual activity. However, you may find that there are ways to help make things easier. You should never be embarrassed to consult your physician with any doubts or questions you may have.

Stress : Learning to reduce stress and other life-style changes your doctor may already have recommended. Stress can trigger angina on happy, exciting occasions (such as your child's wedding) as well as when you feel pressured or angry.

It is important to follow all of your doctor's recommendations about your life-style, because they can reduce your risk of anginal attacks and other serious heart problems later on.

Nitrates such as nitroglycerin are the best-known and most widely used drugs for angina; they have been prescribed for over a century. All nitrates dilate

your veins and make it easier for your heart to do its work – thus relieving or preventing anginal pain.

Nitrates are prescribed in many different forms. Chances are your physician has already prescribed sublingual (under-the-tongue) nitroglycerin tablets for you to provide quick relief of anginal attacks when they occur.

Nitrates are also prescribed in various long-acting forms to prevent angina attacks. Judicious use of nitrates (like sorbitrate) orally and sublingually is the main stay of treatment of chronic angina. A small dose of betablocker (like Atenolol) which dampens the sympathetic tone is also useful in majority of patients with angina.

Successful Approach To Stop Smoking

Having accepted beyond as much as shadow of doubt that smoking aggravates coronary heart disease; we want to present here how we go about persuading the patients of coronary heart disease who are confirmed smokers, to give up smoking altogether.

We may point out the manner of approach which is not likely to succeed. Patients of coronary heart disease are normally too busy to listen to sermons and preaching. A social reformer's attitude is hardly successful with them. An advice coached in mild

terms saying that smoking is not advisable and it is better to reduce the consumption of cigarettes, means nothing significant to the patient who is habituated to smoking. At best, such advice may mean to him that he should not smoke in the presence of his doctor.

Most patients give up smoking during the acute episode of myocardial infarction. When the patient is convalescing from heart attack and feeling well, he feels like enjoying the puff once again. At that time, relatives of the patients or the nurse attending the patient may complain to the doctor that the patient has started smoking again. When the patient is advised against smoking on such prompting from the nurse or the relatives, it carries very little weight. It would seem a casual advice. A casual approach of any kind to patients of coronary heart disease who are basically perfectionists, fails to get the desired results. A patient of coronary heart disease has to be completely convinced that smoking is definitely harmful for him and stopping of smoking will surely improve the outlook of this deadly disease in his case.

Excuses given by the patient to continue smoking

1. I have been smoking for the last 20 years. Can I continue to smoke 3-5 cigarettes a day ? I do not think I can live without smoking.

2. Sir, how about one cigarette a day ? It is my

habit to smoke a cigarette before I open my bowels each morning.

3. Supposing, I light a cigarette and take only an occasional puff; and what if I do not inhale the smoke ?

4. The gentleman next door is 90 years of age. He never had any heart trouble. He continues to smoke like a chimney for past over 50 years. What about that ?

5. After giving up smoking, I am feeling miserable, and there is no difference in the frequency of my chest pain. In fact the frequency of chest pain has increased. To-day, I smoked a couple of cigarettes, and felt less tense and had to consume less number of glyceryl trinitrite tablets for the relief of my chest pain.

6. Doctor so and so continues to smoke even though he had a heart attack.

There are hundreds of ingenious ways in which a patient of coronary heart disease habituated to smoking argues with the doctor to continue smoking. They are quick to find out any weakness in the strength of the doctor's advice to give up smoking altogether.

Our reponse

Even one cigarette is harmful. Smokers by and large find it easier to stop smoking altogether than reduce it. Regarding the smoking habit of the 90

year- old gentleman next door, we are not concerned about the smoking habit of people in general. We have never professed that smoking is the primary cause of coronary heart disease. What we maintain is, that smoking accelerates and aggravates the onward march of coronary heart disease. Recurrences of myocardial infarction are more common in smokers. Sudden death is also more common in patients of coronary heart disease who continue to smoke. To the remark of sudden death, some patients glibly respond saying "Oh ! It is nice to die all of a sudden." One can be rash and say that one enjoys driving fast at 200 k.p.h. and does not care if he were to die. However, what about other passengers in one's car ? What about other people on the road ? A sensible and an intelligent person will have some consideration for others.

When the patient says, what if he does not inhale the smoke ? or to the clever one who would light a cigarette and take only an occassional puff; we said in a firm tone that we didn't understand why he wants to bargain so much for a little poison he wants to take and still ask for our permission to do so. We tell such patients that we could hardly allow them to take even the slightest amount of poison and that smoking and our treatment are contradictory. Just as he would swallow pills prescribed by us, he should

take the prescription of 'NO SMOKING AT ALL' very seriously. By neglecting that item of our prescription, he is taking away the very edge of our prescription.

To the still adamant, who argues that smoking reduces the frequency of his chest pain, we categorically say that, that is absurd. We agree, that he might feel miserable after giving up a long-standing habit. An agitated and nervous state without smoking may cause more chest pain and smoking of a couple of cigarettes to ease the restlessness in such a situation, might reduce the incidence of chest pain. However, it is all a height of self deceit. If one has a sore throat, one would not possibly take a draught of poison which, while passing through the throat, might soothe the throat but on reaching the liver or the kidney might kill one.

We have felt that at a particular time during their treatment, patients of coronary heart disease are most amenable to suggestions and advice from their doctors. When we are convinced that the patients are benefited by our treatment, and that a solid rapport has been established between us, we use all the force at our command to persuade the patients to give up the use of tobacco in any form altogether. We feel that this is a very important opportunity to get the best cooperation of the patient. A physician who is committed to the welfare of the patient, can ill-afford

to miss this opportunity.

Advice to stop smoking must come naturally and as a matter of great concern. At every follow-up visit, the concern regarding the use of tobacco by the patient must be given due importance.

We can give any number of examples of patients who were once chain smokers and who have given up smoking altogether and feel better and fresher for it. Not only do they not smoke, but they even dislike passive smoking.

Such a motivated and sincere approach is the key to success in any preventive program. In a disease of such grave consequences one can hardly compromise. With such a timely, well motivated approach, full of concern for the health of the patient, not allowing for any casualness or half heartedness in the approach, we have been able to convert large number of our coronary heart disease patients who were chain smokers into non-smokers.

Moreover, since the start of our program in 1991, patients who practise Shavasan and meditation regularly, give up smoking and even alcohol very easily.

Rehabilitation After Myocardial Infarction (Heart Attack)

Concept of Rehabilitation

Rehabilitation means installing the patient happily once again in his previous station in life, with full confidence and yet full of wisdom and awareness of the disease. It need not mean ever increasing capacity for exertion. A patient who lives recklessly and without any thought about the nature of his disease, is not a well rehabilitated patient. **Rehabilitation of a myocardial infarction patient is a challenge. Younger the patient, greater the challenge.**

The Program :

Rehabilitation starts from the first few moments, from the word "GO" after myocardial infarction. Every word of comfort said to the patient contributes a lot to his rehabilitation. As soon as the patient is symptom free, i.e. he has no chest pain or shortness of breath, he is allowed to sit up in bed or in the beside armchair. In an uncomplicated infarction, this is allowed on the third or the fifth day of the infarction. In severe infarction accompained by shock the patient is allowed out of bed after 10-15 days. Usually older the patient shorter the bed rest, as the complications of bed rest are common in the older

age group. When the patient's pulse rate, blood-pressure, settle down to basal levels, he is allowed ambulance in the room. The patient's pulse rate is measured before and after exertion. The rate of increase, development of any irregularity, rise of B. P., if any, and the time taken for the B.P. and pulse to return to the pre-exercise levels are noted. If the patient does not feel undue breathlessness, or does not experience chest pain on prescribed exertion, gradually the activity is increased. Complaints of tiredness after exertion is assessed in its correct perspective, realizing well that loss of tone in the muscles due to bed rest results in easy fatiguability of the muscles. Postural hypotension is also common on resumption of activity after prolonged bed rest. When the patient is ambulant in house, is able to take bath without feeling fatigue, and is able to move outdoors for a furlong or two without getting unduly tried, he is encouraged to resume his work with an advice to become full-fledged at work during a period of 3 to 6 weeks. At every follow-up, the patient's pulse, B.P. and E.C.G. are recorded to evaluate the response of the cardiovascular system to increasing activity by the patient. **The tread-mill performance at its maximum, without getting any symptoms, is not a pre-requisite for ideal rehabilitation.**

When an intimate rapport is established, the patient's personal, family and social life is studied. Foci of mental tension are analysed and the patient is advised accordingly. All this is done by the cardiologist with the help of family physician.

For a successful rehabilitation, education of the patient regarding his disease is of crucial importance. Whatever is known about coronary heart disease must be explained to the patient in a simple language. **A thoroughly scientific approach may bring forth greater co-operation from the enlightened patient.** It may be explained to the patient who has completely recovered from heart attack that **a small healed scar on the heart muscle does not prevent him from enjoying life fully.** A symptom free patient is more easy to rehabilitate. Patients with chronic stable angina can also be rehabilitated fully. Patients with mild congestive heart failure who are well on maintenance dose of digitalis or ACE inhibitor medication and diuretics can also be successfully rehabilitated. **It is important to explain to the patient that no definite cause is known for coronary heart disease.** It is a multi-factorial disease. A factor like heredity is of great importance but cannot be helped. Tendency for high blood pressure, diabetes, raised serum cholesterol, sedentary habits and obesity are

known predisposing factors. **Smoking is also an aggravating factor. It increases the risk fivefold in the patients who are prone to this disease on other scores.**

It is now increasingly realised that **"The way of living and the way of feeling"** is perhaps the single most important contributory factor in the alarmingly increasing incidence of coronary heart disease, when other factors just mentioned are considered individually. "Let me live as fully as possible even if others should perish" attitude nourishes the growth of coronary heart disease. Self-centredness, hostility and cynicism are toxins for heart health. The present day world is in the throes of this deadly disease. If we at all wish to have any appreciable relief from the ever increasing onslaught of this disease, we need to change the very mode of living. A discipline like "Yoga" can help the patients of coronary heart disease. However, a note of caution is needed here. "Yoga" is not only a ritual of hurriedly performed *asanas* in the morning and at the end of the day. Yoga is a way of life. It helps one to develop a concept of simple living and high thinking as well as an attitude of let live and live. **Let live and live attitude brings peace and is the only way we can hope to prevent the relentless march of this disease on the makind as a whole.** Maintenance of

ideal weight, avoidance of use of tobacco in any form, control of diabetes and hypertension, diminished intake of saturated fats, regular light exercise like walking, frequent small meals, avoiding eating full stomach at any time, avoidance of physical exertion immediately after meals and learning the art of relaxation at work and at leisure, are important preventive measures. Progressive deep relaxation (Shavasana) and meditation can help the individual to view the stress in a healthy manner.

A Rehabilitated patient

A rehabilitated myocardial infarction patient is careful about his weight, does not smoke, takes alcohol if at all, in moderation, eats more frequently and less at a time, consumes less of sugar, salt, oil, fried and animal foods. He enjoys his work, being thorough and sincere as before, but not over-sincere, ruthless and obsessed with perfectionism. He is ambitious but not viciously so. He has learnt to relax even while under pressure of heavy responsibilities. **Experience tells us that rehabilitated patient in no way enjoys his life less or contributes less to the progress of himself, his family and the society in general. In reality, a well rehabilitated patient is a greater and richer asset to his family and the society. The fully rehabilitated patient of**

myocardial infarction has learnt to enjoy life from a healthier standpoint. He has experienced the benefit of alturism and co-operation. He is a torch bearer for those who have just recovered from an acute episode and a guide for the individuals who are excessively prone to coronary heart disease.

All these attributes of a well rehabilitated patient of coronary heart disease is the result of a painstaking, extremely sincere and a thoroughly motived approach of the physician and the full cooperation of the patient.

We have the satisfaction of having rehabilitated hundreds of patients of myocardial infarction during the last thirty-five years, who admit without reservations that they feel ‘better than before their attack’ in every sense of the term.

A rehabilitated patient is :

R = RELAXED

E = EDUCATED ABOUT THE DISEASE

H = HUMBLE

IN

A = AMBITION

B = BETTER THAN BEFORE

AS

I = INDIVIDUAL

L = LIGHTER IN WEIGHT

I = INCLINED TO BE

T = TEMPERATE IN HABITS

AND

A = ASPIRATIONS

T = TREMENDOUSLY

E = ENCOURAGED

AND

D = DETERMINED TO FIGHT BACK THE DISEASE

•

"Mind is consciousness which has put on limitations. You are originally unlimited and perfect. Later you take on limitations and become the mind."

- Sri Ramana Maharshi

INTRODUCTION TO THE DISEASES OF THE HEART

The purpose of this communication is to outline the various types of diseases of the heart and discuss briefly the important information regarding the causes of coronary heart disease and suggest simple guidelines to prevent coronary heart disease (Heart Attack).

A baby may be born with heart disease due to defective formation of heart during intra-uterine (mother's womb) life. Heart formation is completed by about the sixteenth week of gestation. During the first four months of pregnancy, certain types of virus illnesses in a mother may lead to defective formation to the baby's heart. Minimum amount of medications to the mother should be the rule during the first four months of pregnancy, as certain drugs are implicated in the defective formation of the baby in the mother's womb. Now, heart surgery can correct the deformities of the heart in children born with **congenital heart disease.**

Rheumatic fever may affect the children between five and fifteen years of age. This disease affects the valves of the heart and leads to what is known as **Rheumatic valvular heart disease.** Throat infection due to certain types of bacteria may result

in rheumatic fever, which licks the joints and bites the heart. For prevention of rheumatic fever, these throat infections have to be vigorously treated, and prophylactic penicillin therapy may have to be given to the child who has suffered from one attack of rheumatic fever, till the child grows into an adult. Deformed valves of the heart can be corrected or replaced by surgery.

Heart disease may occur due to long standing strain on the heart due to **high blood pressure.** Effective and early treatment of high blood pressure can prevent this type of heart disease.

Long standing lung diseases like bronchial asthma or chronic bronchitis can lead to heart disease, which is known as **pulmonary (related to lung) heart disease.** Such a type of heart disease is prevalent in industrial cities, where there is air pollution.

Lastly, and what is most important, the heart disease which is now a global problem and which is a number one killer in the prime of life, results from the narrowing of the coronary arteries due to deposition of fat-like material in the walls of the coronary arteries. Coronary arteries supply oxygen and nutrition to the heart muscles. Narrowing of these arteries leads to lack of blood circulation in these arteries thus leading to poor supply of oxygen and nutrition to heart muscle, which results in heart disease known as **Coronary Heart Disease.**

Guidelines for Primary prevention

- Maintain normal weight
- Moderation in drinking alcohol
- Avoidance of tobacco
- Avoid eating full stomach at any time
- Avoid heavy exercise immediately after meals
- Avoid unaccustomed heavy exertion after the age of 30
- Learn the art of relaxation during work
- Mode of living which is conducive to mental peace. "Let live, and live" attitude

Guidelines for Secondary prevention

- To keep normal weight
- Moderation in drinking alcohol
- Complete avoidance of tobacco in any from
- Avoid eating full stomach at any time
- Rest for one hour after meals
- Learn the art of relaxation during work
- Mode of living which is conducive to mental peace. "Let live, and live" attitude.
- In yearly check-up of lipid profile total cholesterol should preferably be below 200 mg%, HDL above 40 mg%, LDL below 100 mg% and, triglyecerides below 140 mg%

It is well to remember that most heart attack patients, can be rehabilitated fully to live a useful existence of many years.